

**Biological Assessment
for
33528 Mulholland Highway
Malibu, California**

APN 4472-009-012

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Exhibits

- Exhibit A – Regional Map
- Exhibit B – Regional Aerial Photograph
- Exhibit C – Vegetation Map
- Exhibit D - Site Photographs
- Exhibit E – Plant and Wildlife Species Inventory
- Exhibit F – Special-Status Plant Species
- Exhibit G – Special-Status Wildlife Species
- Exhibit H –LCP Habitat Classifications Map
- Exhibit I – Site Specific Habitat Classifications Map

INTRODUCTION

Location

The 16.5-acre property is located at 33528 Mulholland Highway in unincorporated Los Angeles County. The USGS map location of the site is described as: R20W, T1S, northwest quarter of Section 16, of the Triunfo Pass 7.5-minute quadrangle. The property is currently vacant but significant portions of its northern one-half have been cleared annually since at least 1947, presumably for dryland agriculture and/or livestock grazing. The property's regional context is provided in **Exhibit A, Regional Map**, and **Exhibit B, Regional Aerial Photograph**.

Background

The purpose of this report is to provide technical information on biological resources as part of Los Angeles County's environmental review of the property owner's application for a coastal development permit to construct a visitor-serving facility in the northwest corner of the parcel. Although biological assessments were prepared for two previous coastal development permit applications in August, 2002 and November, 2005, and site conditions have not changed, this report was required in order to comply with the content and format stipulated in the County's recently adopted *Santa Monica Mountains Local Coastal Plan* (LCP).

Methodology

The findings contained herein are based on: 1) a review of the LCP; 2) a review of the California Department of Fish and Wildlife (CDFW) Natural Heritage Division Natural Diversity Data Base (CNNDDB) (January 2016)), inclusive of the Triunfo Pass, Point Dume, Thousand Oaks, Newbury Park, Point Mugu, and Camarillo USGS 7.5 minute quadrangles; 3) a review of the California Native Plant Society's (CNPS) online Inventory of Rare and Endangered Vascular Plants of California (January 2016); 4) pedestrian site surveys conducted on May 16, 2014, May 25, 2015 and November 20, 2015; 5) aerial photography obtained from GoogleEarth and Historicaerials; and, 6) professional knowledge, experience and intuition gained over 41 years of biological consulting experience. All work efforts contributing to the preparation of this report were performed by Steve Nelson, Consulting Biologist.

CHARACTERISTICS OF THE SITE

Watershed Boundaries and Drainage Patterns

The property lies within the upper Arroyo Sequit watershed which drains into the Pacific Ocean approximately 4.5 miles downstream. There are no blue-line drainages indicated on the USGS topographic map and it appears that much of the site drains as sheet flow with no discernable drainage features.

Soils, Landforms and Geologic Features

Soils on site consist of silty clay loams (Perkins-Rincon association) with scattered rock outcrops. These soils are well drained with a moderate to high erosion hazard. Overall, the property consists of moderate to gentle slopes (0 to 15 percent). Elevations on the property range from approximately 1375 feet above mean sea level along Mulholland Highway to approximately 1425 feet along its southern boundary. There are no significant landforms or geologic features which otherwise stand out from the surrounding area; nor are there any known unique soil formations found on site.

Wildfires

Based on a review of a series of maps provided by the National Park Service (NPS) delineating wildfires in the Santa Monica Mountains since 1925, the area around the property has burned two times between that time and 2007: 1935 and 1985. According to a map titled *Time Since Last Fire*, reckoned by the NPS in 2012, the property has not burned in the last 25 to 30 years. This is further evidenced by a dense growth of mixed chaparral dominated by large shrubs on the slopes in the western portion of the property.

Vegetation

Vegetation on-site consists of three classifications: 1) coast live oak (*Quercus agrifolia*) woodland/forest alliance, coast live oak-poison oak (*Toxicodendron diversilobum*) woodland association; 2) chamise (*Adenostoma fasciculatum*) shrubland alliance, chamise-laurel sumac (*Malosma laurina*) shrubland association; and 3) California annual grassland/herbaceous alliance, ripgut brome (*Bromus diandrus*)-wild oat (*Avena sp.*) association. Summary descriptions of these vegetation types follow. An aerial photograph illustrating the distribution of vegetation on site and representative site photographs are provided in **Exhibit C, Vegetation Map** and **Exhibit D, Site Photographs**, respectively. For greater detail, the reader is referred to CDFW (2006).

The **coast live oak-poison oak woodland association** is found in the central-northern one-half of the property on a gentle north-facing slope. The density of the trees forms a mostly closed canopy. Poison oak dominates the understory vegetation with toyon (*Heteromeles arbutifolia*), honeysuckle (*Lonicera subspicata*), laurel sumac and scattered blue elderberry (*Sambucus mexicana*) also being present.

The **chamise-laurel sumac association** occurs on moderate slopes throughout much of the southern one-half of the property. In addition to the dominant species, chamise and laurel sumac, the vegetation includes purple sage (*Salvia leucophylla*), scrub oak (*Quercus berberidifolia*), ceanothus (*Ceanothus sp.*), lemonadeberry (*Rhus integrifolia*) and California buckwheat (*Eriogonum fasciculatum*).

The **ripgut brome-wild oat association** is found primarily in relatively flat or gently sloping areas that were initially cleared prior to 1947 and have been maintained by periodic clearing and/or disking ever since. The vegetation is dominated by wild oats and ripgut brome. Other component species include foxtail chess (*B. madritensis*), soft chess (*B. hordeaceus*), perennial rye (*Lolium perenn*) and tocolate (*Centaurea melitensis*). With the exception of occasionally scattered native shrubs, native species are absent as would be expected under the frequent disturbance regime.

Wildlife

Observations of wildlife using the site and adjacent areas were made during the site investigation. These are listed in **Exhibit E, Plant and Wildlife Species Inventory** along with other expected species. Due to the location of the site adjacent to larger natural open space areas, more wildlife species than those listed undoubtedly could be observed on site over time. The species listed in **Exhibit E** are representative of the various taxonomic groups that use the on-site vegetation as habitat. The status of the major wildlife taxonomic groups expected on site is described below.

No **amphibians** were observed or otherwise detected. However, two common species may be expected in the coast live oak-poison oak woodland due to the leaf litter and tree canopy that potentially allows the underlying soils to remain somewhat moist for much of the year.

Reptile species observed on site consisted of two common lizard species. Several other reptile species are expected, particularly at the edges of chaparral associations where the open habitat provides sites to sun and forage. In general, reptile populations on the property are expected to be low to moderate in diversity and abundance due to the periodic disturbances.

A number of **bird** species characteristic of chaparral and oak woodland habitats were observed or heard on and near the property. These included several songbirds that are common throughout the region and a number of others are expected. These are believed to be reflective of the habitat value and functions provided by the well-developed chaparral and oak woodland associations present on site, which provide good cover and a fairly diverse habitat structure. Thus, bird populations on the property are expected to be fairly abundant and diverse within the chaparral and woodland habitats, but not nearly so in the grassland areas..

As a subgroup of birds, several **raptor** species are expected to use the property as forage and/or on a transitory basis. During the site investigation, all trees on the property were searched for raptor nests. No nests were observed.

Observations of individuals or evidence of the presence of several **mammal** species were made during the site visits. These included small to medium sized species and wide-ranging species. A few other species are also expected. Both the abundance and diversity of mammals that could occur and forage on site are expected to be moderate due to the nearby vacant land that supports native habitats.

Special Status Species and Habitats

Thirty-one **special status plant species** were reported in the current edition of the CDFW CNDDb from the Triunfo Pass and surrounding USGS quadrangles (see **Exhibit F, Sensitive Plant Species**). Of these, 22 species do not have the potential to occur on site due to the absence of soil types/habitats capable of supporting them and/or their being known to be endemic to specific geographical localities far removed from the site. The remaining nine species have a low to moderate potential to occur on-site, but only within the chamise-laurel sumac association.

The coast live oak-poison oak woodland association is comprised of numerous coast live oak trees, many of which are of a size that is regulated by the Los Angeles County Oak Tree Protection Ordinance. In addition, oak woodlands within the County are subject to the policies and guidelines contained in the County's Oak Woodlands Conservation Plan. An updated oak tree survey report will be provided under separate cover.

Thirty **special status animal species** have been recorded within the Triunfo Pass and surrounding USGS quadrangles (see **Exhibit G, Sensitive Wildlife Species**). Of these, suitable habitat does not exist on site to support 15 species. An additional six species have low potential (i.e., are unlikely) to occur on-site. Of the remaining nine species with moderate to high potential to occur on-site, five would be associated with the coast live oak-poison oak and chamise-laurel sumac associations and four would use the non-native grassland for foraging only.

As a taxonomic group, raptorial birds are also considered to be sensitive. Based on an examination of the relatively few trees within 500 feet (standard CDFG buffer around active raptor nests) of the proposed work areas, no raptor nesting or roosting occurs on the property or in the immediate vicinity.

No federal or state-listed threatened or endangered wildlife species were observed, are reported, or are expected to occur on site.

Habitat Classifications On-site

Vegetation on-site was characterized according to the National Park Service Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs incorporated into the LCP/LIP. The LCP/LIP mapping is shown in **Exhibit H, LCP Habitat Classifications Map**. **Exhibit I, Site-specific Habitat Classifications Map**, reflect a more refined approach based on the field investigations.

H1 Habitats

As defined in the LCP/LIP, H1 habitats “consist of habitats of highest biological significance, rarity, and sensitivity”. H1 habitats found within the affected area are:

- **Coast live oak-poison oak woodland association.**

As illustrated in Figure 1, *Vegetation Map*, only a small portion of coast live oak woodland is within the area to be affected by the proposed development. More specifically, this habitat falls within the 200- foot fuel modification zone, but will not be cleared, grubbed or graded. At most, branches may need to be trimmed four feet up from the ground or as otherwise directed by the County fire authority.

H2 Habitats

The LCP/LIP defines H2 habitats as being habitats of “high biological significance, rarity, and sensitivity that are important for the ecological vitality and diversity of the Santa Monica Mountains Mediterranean Ecosystem”. According to the LCP/LIP, “H2 habitats include large, contiguous areas of coastal sage scrub and chaparral-dominated habitats”, as well as habitats that support rare natural communities and special status plant and animal species. H2 habitats found within the affected area are:

- **Chamise-laurel sumac association.**

H2 “High Scrutiny” Habitats

As a subcategory of H2 habitats, H2 high scrutiny habitats are those comprised of extra sensitive species and habitats that should be given avoidance priority over other H2 habitats. Specifically, H2 high scrutiny habitats are those that support threatened, endangered, rare and otherwise special status plant and animal species. No H2 high scrutiny habitats are found within the affected area.

H3 Habitats

H3 habitats consist of “areas that would otherwise be designated as H2 habitat, but the native vegetation communities have been significantly disturbed or removed”. The H3 habitat category further includes “isolated and/or disturbed stands of native tree species (oak, sycamore, walnut, and bay) that do not form a larger woodland or savannah habitat. On-site, H3 habitats found within the affected area are:

- **Ripgut brome-wild oat association.**

Unauthorized Development

There does not appear to be any unauthorized development on the property.

CHARACTERISTICS OF THE SURROUNDING AREA

Surrounding Land Uses

Existing land uses in the vicinity of the site consist of large lot rural residential uses and vacant lands. The only roads are Mulholland Highway, running in an east-west direction, and Decker Road and Little Sycamore Canyon Road, running in north-south directions

Open Space Reserves in the Area

According to Map 8: *Land Use Policy (West)* in the LCP, large blocks of open space-parks are found within one mile of the property to the west, north and east.

IMPACTS ANALYSIS

Approach

The following discussion examines the potential impacts to plant and wildlife resources that may occur as a result of construction and operation of the Project. For the purpose of this assessment, project-related impacts take two forms, direct and indirect. Direct impacts are considered to be those that involve the loss, modification or disturbance of natural habitats (i.e., vegetation or plant communities), which in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts also include the destruction of individual plants or wildlife, which is typically the case in species of low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals in these manners may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and, hence, population stability.

Indirect impacts are considered to be those that involve the effects of increases in ambient levels of sensory stimuli (e.g., noise, light), unnatural predators (e.g., domestic cats and other non-native animals), and competitors (e.g., exotic plants, non-native animals). Indirect impacts may be associated with the construction and/or operation of a project; therefore, these impacts may be both short-term and long-term in their duration. These impacts are commonly referred to as “edge effects” and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the project site.

The biological values of resources within, adjacent to, and outside the area to be affected by the proposed project were determined by consideration of several factors, as applicable. These included the overall size of habitats to be affected, the property’s previous land uses and disturbance history, the property’s surrounding environment and regional context, the on-site biological diversity and abundance, the potential presence of sensitive and special-status plant and wildlife species, the property’s importance to regional populations of these species, and the degree to which on-site habitats are limited or restricted in distribution on a regional basis and, therefore, are considered sensitive in themselves. Whereas this assessment is comprehensive, the focus is on special-status plant communities/habitats, resources that play an important role in the regional biological systems, and special-status species, as reflected in the earlier LCP habitat classification. The following discussion is organized according to the CEQA Appendix G Thresholds for Significance for biological resources.

Impact Analysis

Impacts to Special-Status Species

Threshold BIO-A: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant with Recommended Condition of Approval (Special-Status Plant Species)

Less than Significant (Special-Status Wildlife Species)

Special Status Plant Species

As discussed above, there are nine special status plant species with a low or moderate potential to occur on the property. All of these species, if present, would occur within the chamise-laurel sumac association. Albeit limited, there are patches of chamise-laurel sumac association within the grading footprint and fuel modification zone for the project that could result in impacts to these species. Prior to implementation of fuel modification, special-status plant surveys are recommended within the appropriate blooming period to determine the presence or absence of these nine species, which is proposed as a condition of approval (COA) below (COA-1). These species only have a potential to occur within the native vegetation in the northern portion of the Study Area. Because this area is not proposed for development and is only within the fuel modification area, any special-status plant species observed during the surveys can be avoided and maintained within the fuel modification area; therefore, impacts to special-status plant species would be considered less than significant with the appropriate fuel modification design.

Special Status Wildlife Species

A total of 30 special status wildlife species have some potential to occur on-site. Thirteen of these are considered to have low occurrence potential and eight have moderate to high occurrence potential. None of these species are federally- or state-listed as endangered or threatened.

Of the species that are likely to occur on-site, five would occur in the chamise-laurel sumac association, which for all but small patches, will be avoided and retained on the property. In the case of the remaining four species with potential to occur on-site, the most important habitat aspect of the property is the coast live oak-poison oak association. These species include birds of prey and bat species that could use the trees for roosting and possibly nesting. With the exception of the possibility of minor trimming, this habitat will not be directly impacted. Indirect effects, however, such as light and noise trespass, would require recommended design features to be avoided. Based on these considerations, any impacts would either be considered less than significant or less than significant with recommended conditions of approval.

Impacts to Special-Status Plant Communities/Habitats

Threshold BIO-B: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U. S. Fish and Wildlife Service?

Less than Significant with Mitigation

The property supports one special status plant community that is considered high priority by CDFW, namely the coast live oak-poison oak association. This association is also classified as an H1 habitat in the LCP. Although this community is not within the grading footprint, a very small portion is within the required 200-foot fuel modification area which could require branch thinning and understory clearing to reduce the risk of fire. Any such impacts to regulated oak trees and/or their protected zone resulting from fuel modification would be considered potentially significant and compliance with the County's oak tree ordinance is assumed in order to reduce impacts to a less than significant level.

Impacts to Wetlands

Threshold BIO-C: Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact

There are no federally protected waters (e.g., wetlands or drainages) identified on-site or within the property. Although a formal delineation was not performed, no riparian associated vegetation or high-moisture preferring species were observed during the survey and the Study Area does not appear to support any USACE/RWQCB jurisdictional areas now or in the recent past.

Impacts to Wildlife Movement and Migratory Species

Threshold BIO-D: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery areas?

Less than Significant Impacts with Mitigation (Wildlife Movement)

Less than Significant Impacts with Mitigation (Migratory Species)

Wildlife Movement

In the context of the largely vacant land and limited rural development, the property is considered to support potential live-in and movement habitat for species on both local and regional scales, particularly in an east-west direction. Immediately across Mulholland Highway to the north, the land is cleared and developed providing little habitat to support more than limited movement. Movement on a local scale likely occurs with urban-adapted species through the disturbed environments resulting from the activities associated with the existing neighboring residences, regular fuel modification activity and other urban infrastructure. On a regional basis, the property likely supports movement, however, much better opportunities for east-west and north-south movement exist within the much less developed Arroyo Sequit to the west. Although implementation of the project could result in disturbances to local wildlife movement within the property. Given the location of the project in the extreme northwest corner of the property, those species adapted to disturbed areas would be expected to persist on-site following construction. In addition, design recommendations discussed further on in this report to minimize light and noise trespass into adjacent habitats will also result in less than significant impacts to wildlife movement.

Migratory Species

The property supports potential nesting and foraging habitat for migratory birds. Potential foraging habitat for raptors exists over the ripgut brome-wild oat association and areas of open chamise-laurel sumac association, which are regularly disced and/or are likely inhabited by ground squirrels, gophers and other rodents and reptiles. The majority of these areas will be avoided by the project footprint. Therefore, while impacts to foraging habitat would result from the project, they will be less than significant.

The property also is likely to support songbird nests due to the presence of shrubs and trees which could be directly and indirectly impacted by construction of the project. As is necessary under the Migratory Bird Treaty Act (16 USC 703 et seq.) and the California Fish and Game Code Section 3503, any impacts to nestin birds will be avoided and minimized by mitigation recommended below.

Consistency with Local Policies and Ordinances

Threshold BIO-E: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than Significant Impact (Los Angeles County Santa Monica Mountains LCP)

Less than Significant Impact (Los Angeles County Oak Tree Ordinance)

LCP H1 Habitat

As discussed above, the conclusion of this report is that the oak woodland (H1 Habitat) on-site will not be affected by the grading footprint for the project. However, a very small portion of the oak woodland, encompassing a few trees, is within the required 200-foot fuel modification area which could require branch thinning and understory clearing to reduce the risk of fire. More importantly, no tree removals within this H1 Habitat are anticipated. Any potential impacts that result from thinning would be less than significant in that they would not compromise the integrity of the woodland and its use by wildlife.

Impacts to Outlying Oak Trees

As reported in the updated Tree Report provided under separate cover, there are eight oak trees that are outside the H1 Habitat but within areas where project-related infrastructure (access drive, utility trenching) is proposed. According to the Tree Report, the proposed construction will not encroach into the protected zone of three of these trees. As for the remaining five trees, the proposed construction will either not encroach any further into the protected zones than the existing access drive or should have no or minimal impact on the trees' health. For more detail, the reader is referred to the project's updated tree report.

Consistency with Adopted Natural Community Conservation Plan

Threshold BIO-F: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact

The Project does not occur within the limits of any adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan. As such, no impacts will occur.

Consistency with Adopted Natural Community Conservation Plan

Threshold BIO-F: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact

The Project does not occur within the limits of any adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan. As such, no impacts will occur.

MITIGATION MEASURES AND RECOMMENDED CONDITIONS OF APPROVAL

Approach

Mitigation measures or conditions of approval are recommended for those impacts determined to be potentially significant to special-status and/or regulated biological resources. Mitigation measures for impacts considered to be “significant” were developed in an effort to reduce such impacts to a level of “less than significant.”

Conditions of approval are frequently required of projects to demonstrate project specific compliance with standard regulations or other legal requirements. Where compliance with existing regulations and the issuance of permits by regulatory agencies would reduce impacts to a less than significant level, those measures may be proposed as conditions of approval.

Conditions of Approval

Condition of Approval to Avoid Potentially Significant Impacts to Special-Status Plant Species

COA BIO-1 Due to the presence of suitable habitat for special-status plant species within fuel modification zones, a survey should be required prior to construction. The survey should be conducted by a qualified biologist during the appropriate blooming period for the potentially occurring species and pursuant to survey protocol following published agency guidelines (CDFW, 2009; CDFW, 2000; USFWS, 2000). If no special-status plant species are located, no further action shall be required. Special-status plant species are only expected within the fuel modification area and if observed, should be avoided by clearing activities.

Measure to Mitigate Potentially Significant Impacts to H1 Habitats

BIO-B To the extent permitted by the County Fire Authority, the H1 coast live oak-poison oak association should remain in its existing condition. Except as required for fuel modification, oak trees should not be pruned or removed unless a permit is obtained from the County. Additionally, the understory and downed wood should not be cleared unless it is required.

Measure to Mitigate Potentially Significant Impacts to Migratory or Nesting Birds

- MM BIO-D.1** Prior to the issuance of any permit that would require removal of potential habitat for raptor and songbird nests, the project applicant shall demonstrate to the satisfaction of the County that either of the following have been or will be accomplished.

Vegetation removal activities shall be scheduled outside the nesting season (that is, between September 1 and February 14 for songbirds and September 1 to January 14 for raptors) to the greatest extent feasible, to avoid potential impacts to nesting birds.

It is recommended that if activities associated with construction or grading are planned during the bird nesting/breeding season, generally January 14 through September 30, the applicant have a qualified biologist conduct surveys for any and all active nests within the disturbance footprint and a 300 foot buffer area around the disturbance footprint. Pre-construction nesting bird surveys should be conducted within seven days prior to initiation of ground-disturbing activities to determine the presence of active nests. Surveys should include examination of trees, shrubs, and the ground, within grasslands, for nesting birds, as several bird species known to the area are shrub or ground nesters, including mourning doves. After the commencement of ground disturbance, if ground-disturbing activities are delayed by seven days or longer, additional pre-construction surveys are recommended to ensure no new nesting has taken place within the disturbance and buffer areas

It is recommended that, if active nests are located during pre-construction surveys, clearing and construction activities within 150 feet of the nest (250 feet for raptors), or as otherwise determined by the monitoring biologist, be postponed or halted until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. Limits of construction to avoid an active nest should be established in the field with flagging, fencing, or other appropriate barriers and construction personnel should be instructed on the sensitivity of any nest areas. The biologist should serve as a construction monitor during those periods when construction activities will occur near active nest areas to ensure that no inadvertent impacts on these nests will occur. It is recommended that the results of the survey, and any avoidance measures taken, be submitted to the County within 30 days of completion of the pre-construction surveys and/or construction monitoring to document compliance with applicable state and federal laws pertaining to the protection of native birds.

Measure to Mitigate Potentially Significant Impacts to Wildlife Movement

- MM BIO-D.2** The design and landscaping of the multiple structure project should be so as to minimize the trespass of light and noise into nearby habitat areas. As such, the following guidelines are recommended:

1. Exterior lighting on structures and along walkways and the access drive should be restricted to low intensity features and directed downward, away from nearby habitat areas, or shielded.
2. Any fencing to be installed on the property should be of a split rail construction to allow for the movement of small, medium and large wildlife species.

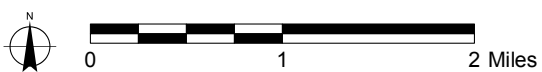
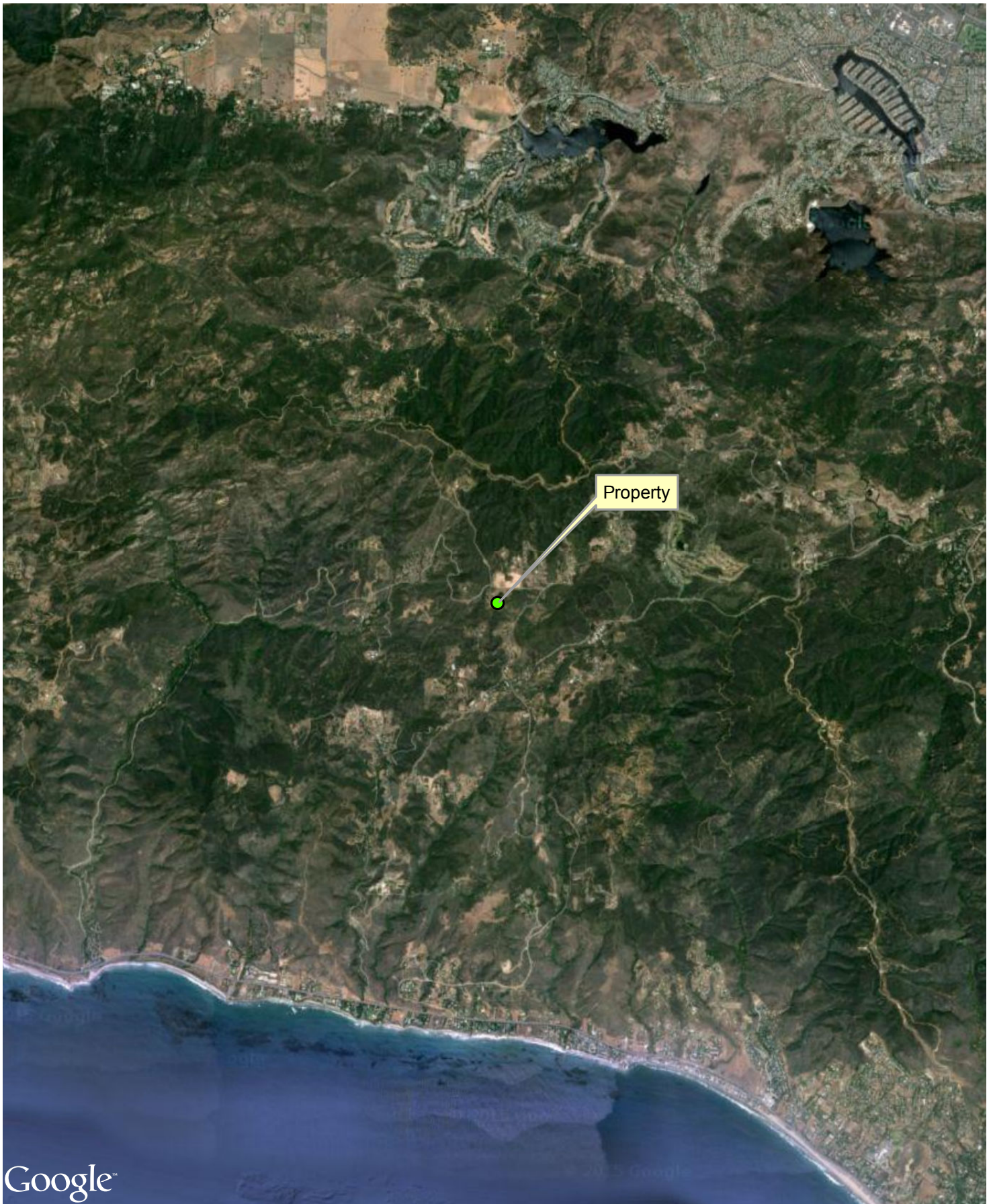
3. Any common areas where guests may congregate and/or generate more than conversation level noise volumes should be shielded by structures or solid walls capable of attenuating such noise levels.
4. Any ornamental and decorative landscape plantings should be limited to the area immediately surrounding the structures and should emphasize plant palettes that require minimal irrigation so as to control and/or limit the ability of invasive plants and animals (such as the Argentine ant) to establish themselves on site in order to avoid spillover impacts to nearby habitats. An appropriate and recommended source for plant palettes for this purpose would be the Drought-Tolerant Perennial Plants Native to Los Angeles County & Surrounding Areas, Approved for Use in Landscaping and Revegetation, Master List maintained by the Los Angeles County Department of Regional Planning.
5. To avoid compromising the integrity of nearby habitats, plant palettes for ornamental plantings should not include any species that are invasive, as listed in California Exotic Pest Plant Control's (CalEPPC) Exotic Pest Plants of Greatest Concern in California (CalEPPC, October 1999).

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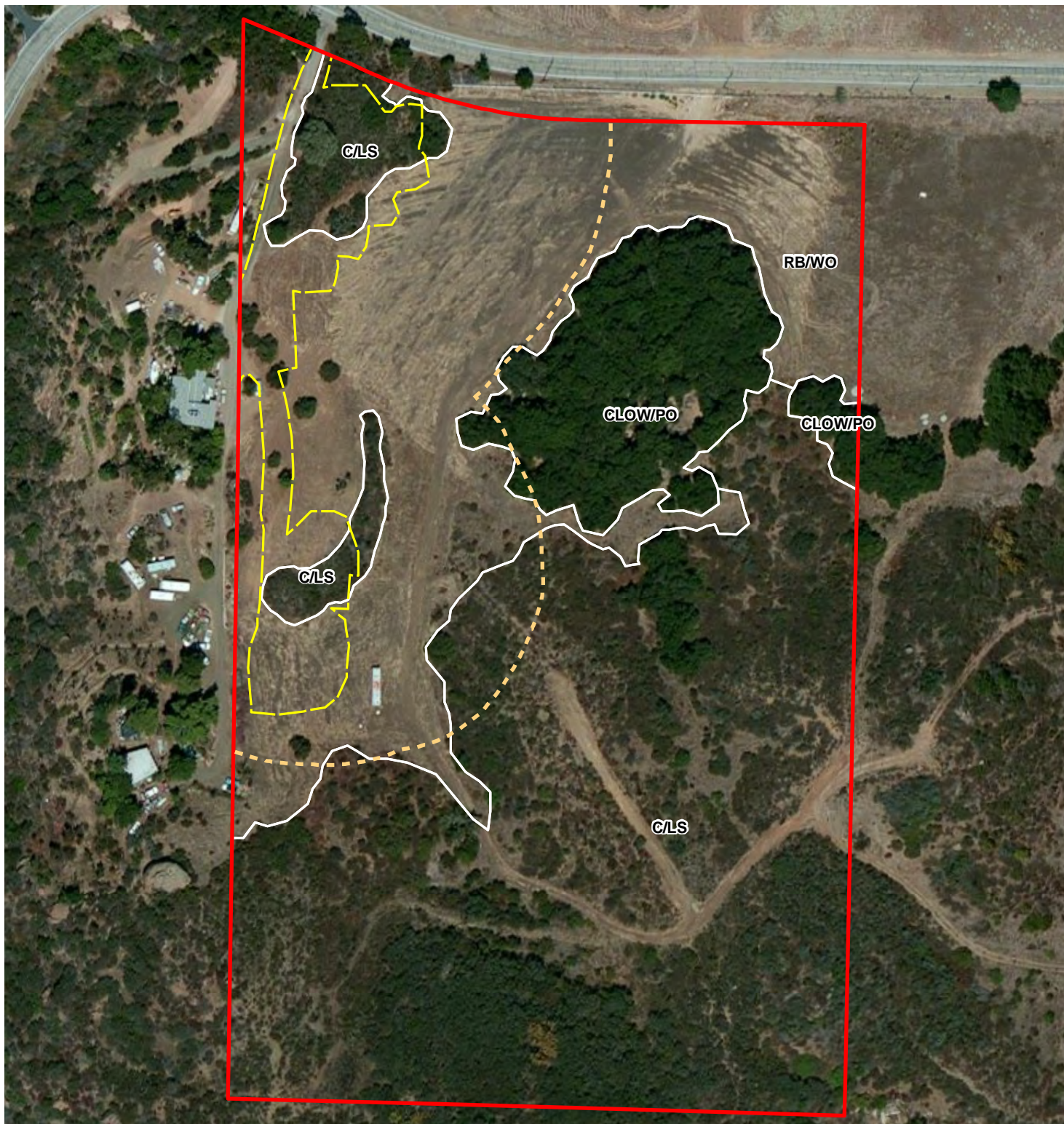
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Regional Aerial Photograph
33528 Mulholland Highway, Malibu



Property Boundary

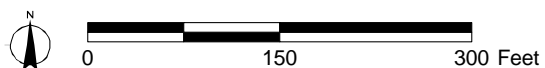
Limits of Grading

Approximate limits of fuel modification

C/LS Chamise/Laurel Sumac (8.9 acres)

CLOW/PO Coast Live Oak/Poison Oak Woodland (1.7 acres)

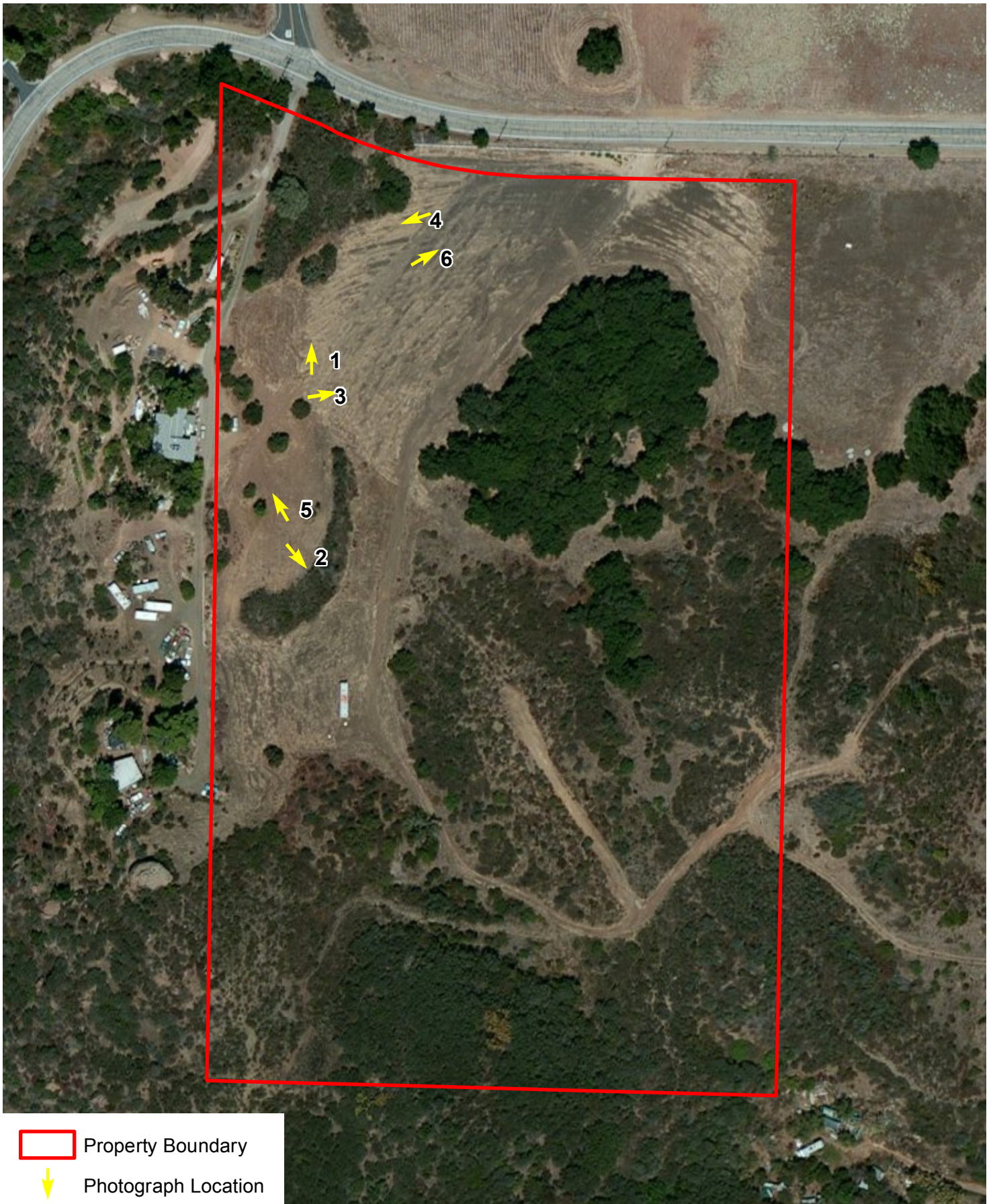
RB/WO Ripgut Brome/Wild Oat (5.9 acres)



Vegetation Map
33528 Mulholland Highway

EXHIBIT

C



Site Photograph Locations
33528 Mulholland Highway

EXHIBIT

D



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5



Photograph 6

Exhibit E: Plant and Wildlife Species Inventory

Plants (* = non-native species)

Agavaceae - Agave Family

Yucca whipplei - chaparral yucca

Anacardiaceae - Sumac or Cashew Family

Malosma laurina - laurel sumac

Rhus integrifolia – lemonadeberry

Toxicodendron diversilobum – poison oak

Apiaceae - Carrot Family

Foeniculum vulgare - sweet fennel *

Asteraceae - Sunflower Family

Eriophyllum confertifolium – yarrow

Ambrosia psilostachya

Artemisia californica - California sagebrush

Baccharis pilularis – coyote brush

Carduus pycnocephalus *

Centaurea melitensis - tocolate *

Conyza canadensis - horseweed *

Gnaphalium californicum - California everlasting

Hazardia squarrosa - sawtooth goldenbush

Hemizonia fasciculata – fascicled tarweed

Heterotheca grandiflora - telegraph weed *

Brassicaceae - Mustard Family

Hirshfeldia incana - Mediterranean mustard *

Brassica nigra – black mustard *

Caprifoliaceae – Honeysuckle Family

Lonicera subspicata - honeysuckle

Sambucus mexicana – Mexican elderberry

Chenopodiaceae - Goosefoot Family

Salsola tragus - Russian thistle *

Convolvulaceae - Morning-Glory Family

Convolvulus macrostegia - chaparral morning glory

Cuscutaceae - Dodder Family

Cuscuta sp. - dodder

Fabaceae - Legume Family

Acmispon glaber – deerweed

Medicago polymorpha – bur-clover *

Fagaceae – Oak Family

Quercus agrifolia – coast live oak

Quercus berberidifolia – scrub oak

Geraniaceae - Geranium Family

Erodium cicutarium - red-stemmed filaree *

Iridaceae – Iris Family

Sisyrinchium bellum – blue-eyed grass

Lamiaceae - Mint Family

Marrubium vulgare - horehound *

Salvia mellifera - black sage

Salvia leucophylla – purple sage

Malvaceae - Mallow Family

Malacothamnus fasciculatus - bush mallow

Malva parviflora - cheeseweed *

Poaceae - Grass Family

Avena fatua – slender wild oat *

Bromus diandrus - ripgut grass *

Bromus madretensis - foxtail chess *

Bromus hordeaceus - soft chess *

Leymus condensatus – giant rye

Nassella pulchra - purple needlegrass

Polygonaceae - Buckwheat Family

Eriogonum fasciculatum – California buckwheat

Rhamnaceae – Buckthorn Family

Ceanothus crassifolius – hoary-leaved ceanothus

Ceanothus megacarpus – big pod ceanothus

Rosaceae – Rose Family

Adenostoma fasciculatum – chamise

Adenostoma sparsifolium – redshank

Heteromeles arbutifolia – toyon

Scrophulariaceae - Figwort Family

Mimulus aurantiacus - sticky monkey-flower

Penstemon centranthifolius – scarlet bugler

Solanaceae - Nightshade Family

Solanum xantii - chaparral nightshade

Nicotiana glauca – tree tobacco *

Wildlife (* = observed or detected, # = species of concern)

Amphibians

Batrachoseps nigriventris – black-bellied slender salamander

Bufo boreas – California toad

Reptiles

Sceloporus occidentalis - Great Basin fence lizard *

Uma stansburiana - side-blotched lizard *

Eumeces skiltonianus – wester skink

Elgaria multicarinata – southern alligator lizard

Phrynosoma coronatum frontale – coast horned lizard

Aspidoscelis tigris stejnegeri - coastal western whiptail

Masticophis lateralis - chaparral whipsnake

Pituophis melanoleucus - gopher snake

Crotalus viridis - southern Pacific rattlesnake

Salvadora hexalepis virgulata - coast patch-nosed snake

Lampropeltis zonata – California mountain kingsnake

Diadophis punctatus modestus – San Bernardino ringneck snake

Birds

Cathartes aura - turkey vulture *

Accipiter cooperii – Cooper's hawk

Buteo jamaicensis - red-tailed hawk *

Buteo lineatus – red-shouldered hawk

Falco sparverius - American kestrel *

Callipepla californica - California quail *

Zenaida macroura - mourning dove *

Columba livia - rock dove *

Geococcyx californicus - greater roadrunner *

Calypte anna - Anna's hummingbird *

Colaptes auratus - northern flicker

Dendrocopos nuttallii - Nuttall's woodpecker *

Tyrannus vociferous - western kingbird

Sayornis saya - Say's phoebe

Aphelocoma californica - western scrub jay *

Corvus brachyrhynchos - American crow *

Corvus corax - common raven

Petrochelidon pyrrhonota - cliff swallow

Chamaea fasciata - wrentit *

Thryomanes bewickii - Bewick's wren *

Turdus migratorius - American robin

Sialia mexicana - western bluebird
Mimus polyglottos - northern mockingbird *
Toxostoma redivivum - California thrasher
Sturnus vulgaris - European starling
Dendroica coronata - yellow-rumped warbler
Pipilo maculatus - spotted towhee *
Pipilo crissalis - California towhee *
Chondestes grammacus - lark sparrow
Amphispiza bellii - Bell's sparrow
Aimophila ruficeps canescens - ashy rufous-crowned sparrow
Aimophila ruficeps canescens – southern California rufous-crowned sparrow
Zonotrichia leucophrys - white-crowned sparrow
Melospiza melodia - song sparrow
Euphagus cyanocephalus - Brewer's blackbird
Molothrus ater - brown-headed cowbird
Carduelis psaltria - lesser goldfinch *
Carpodacus mexicanus - house finch *

Mammals

Didelphis virginianensis - Virginia opossum
Scapanus latimanus - broad-handed mole
Sylvilagus audubonii - Audubon's cottontail *
Thomomys bottae - valley pocket gopher *
Canis latrans - coyote *
Urocyon cinereoargenteus - gray fox
Procyon lotor - raccoon
Mustela frenata - long-tailed weasel
Mephitis mephitis - striped skunk
Odocoileus hemionus - mule deer
Spermophilus beecheyi - California ground squirrel *
Dipodomys agilis - Pacific kangaroo rat *
Perognathus californicus - California pocket mouse
Neotoma fuscipes - dusky-footed woodrat *
Peromyscus maniculatus - deer mouse
Taxidea taxus – American badger

Appendix F: Special-Status Plant Species

Scientific Name	Common Name	Blooming Period	Federal	State	CNPS	Preferred Habitat	Potential For Occurrence
FUNGI							
CALICINACEA							
<i>TEXOSPORIUM SANCTI-JACOBI</i>	WOVEN-SPORED LICHEN	N/A	NONE	NONE	3	ORGANIC SOILS	NONE – SUITABLE HABITAT NOT PRESENT
BRYOPHYTES (MOSSES)							
Bryaceae	Moss Family						
<i>Tortula californica</i>	California screw moss	N/A	NONE	NONE	1B.2	Chenopod scrub, Valley and foothill grassland; grows within sandy soils. 10-1460 meters.	NONE – SUITABLE HABITAT NOT PRESENT
FERNS							
Thelypteridaceae	Marsh Fern Family						
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern	Jan.-Sep.	NONE	NONE	2B.2	Meadows and seeps, along streams or near seeps. 50-610 meters.	NONE – SUITABLE HABITAT NOT PRESENT
ANGIOSPERMS (DICOTS)							
Asteraceae	Sunflower Family						
<i>Baccharis malibuensis</i>	Malibu baccharis	Aug.	NONE	NONE	1B.1	Chaparral, cismontane woodland, coastal scrub, riparian woodland. 150-260 meters.	LOW POTENTIAL IN CHAMISE-LAUREL SUMAC ASSOCIATION
<i>Centromadia parryi</i> ssp. <i>australis</i>	southern tarplant	May-Nov.	NONE	NONE	1B.1	Margins of marshes and swamps, valley and foothill grassland (vernally mesic), vernal pools. 0-425 meters.	NONE – SUITABLE HABITAT NOT PRESENT

NONE = species not expected to occur due to the lack of suitable habitat, or the site's location outside of the species' range; **NOT EXPECTED** = preferred habitat was considered present based on the literature review and observed habitat on the Project site, however no individuals were observed during the focused special-status plant survey; **POTENTIAL** = preferred habitat was considered present based on the literature review and habitat observed on the Project site

Scientific Name	Common Name	Blooming Period	Federal	State	CNPS	Preferred Habitat	Potential For Occurrence
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion	Jan.-Aug.	NONE	NONE	1B.1	Coastal bluff scrub (sandy), Coastal dunes. 0-100 meters.	NONE – SUITABLE HABITAT NOT PRESENT
<i>Deinandra minthornii</i>	Santa Susana tarplant	Jul.-Nov.	NONE	NONE	1B.2	Chaparral, coastal scrub; typically found growing on sandstone outcrops and crevices or within shrublands. 280-760 meters.	NONE – SUITABLE SUBSTATE NOT PRESENT
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	Feb.-Jun.	NONE	NONE	1B.1	Marshes and swamps (coastal salt), playas, vernal pools. 1-1220 meters.	NONE – SUITABLE HABITAT NOT PRESENT
<i>Pentachaeta lyonii</i>	Lyon's pentachaeta	Mar.-Aug.	FE	SE	1B.1	Chaparral, valley and foothill grassland, and coastal scrub; typically found between grassland and chaparral habitats. 30-630 meters.	LOW POTENTIAL IN CHAMISE-LAUREL SUMAC ASSOCIATION
<i>Senecio aphanactis</i>	chaparral ragwort	Jan.-Apr.	NONE	NONE	2B.2	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline soil. 15-800 meters.	LOW POTENTIAL IN CHAMISE-LAUREL SUMAC ASSOCIATION
Chenopodiaceae	Goosefoot Family						
<i>Atriplex coulteri</i>	Coulter's Saltbush	Mar.-Oct.	NONE	NONE	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline or clay soils. 10-440 meters.	NONE – NOT OBSERVED ON-SITE
Crassulaceae	Stonecrop Family						

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Scientific Name	Common Name	Blooming Period	Federal	State	CNPS	Preferred Habitat	Potential For Occurrence
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	Apr.-Jun.	NONE	NONE	1B.1	Coastal bluff scrub, coastal scrub, and valley and foothill grasslands; rocky slopes or in shallow clay soils over serpentine. 5-450 meters.	LOW POTENTIAL IN CHAMISE-LAUREL SUMAC ASSOCIATION
<i>Dudleya cymosa</i> ssp. <i>agourensis</i>	Agoura Hills dudleya	May-Jun.	FT	NONE	1B.2	Chaparral, cismontane woodland; rocky, volcanic breccia. 200-500 meters.	NONE – VOLCANIC SOILS NOT PRESENT
<i>Dudleya cymosa</i> ssp. <i>marcescens</i>	marcescent dudleya	Apr.-Jul.	FT	NONE	1B.2	Chaparral; on sheer rock surfaces and rocky volcanic cliffs. 150-520 meters.	NONE – VOLCANIC SOILS NOT PRESENT
<i>Dudleya cymosa</i> ssp. <i>ovatifoila</i>	Santa Monica dudleya	Mar.-Jun.	FT	None	1B.2	Volcanic, sedimentary, rocky soil associated with chaparral and coastal sage scrub. 150-1675 meters.	NONE – VOLCANIC SOILS NOT PRESENT
<i>Dudleya parva</i>	Conejo dudleya	May-Jun.	FT	NONE	1B.2	Coastal scrub, valley and foothill grassland; grows on rocky and grassy slopes within clay or volcanic soils. 60-450 meters	NONE – SUITABLE SOILS NOT PRESENT
<i>Dudleya verityi</i>	Verity's dudleya	May-Jun.	FT	NONE	1B.1	Chaparral, cismontane woodland, coastal scrub; volcanic outcrops in the Santa Monica Mountains. 60-120 meters.	NONE – SUITABLE SOILS NOT PRESENT

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Scientific Name	Common Name	Blooming Period	Federal	State	CNPS	Preferred Habitat	Potential For Occurrence
Fabaceae	Pea Family						
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	Jan.-Aug.	FE	NONE	1B.1	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland; found in burned or disturbed areas in shallow soils on hilltops, saddles, bowls between hills; prefers saline and somewhat alkaline soil (soil specialist). 200-650 meters.	NONE – SUITABLE SOILS NOT PRESENT
Geraniaceae	Geranium Family						
<i>California macrophylla</i>	round-leaved filaree	Mar.-May	NONE	NONE	1B.1	Cismontane woodland, valley and foothill grassland, clay soils. 15-1200 meters.	NONE – SUITABLE HABITAT NOT PRESENT
Lamiaceae	Mint Family						
<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i>	white-veined monardella	Jun.-Aug.	NONE	NONE	1B.3	Chaparral and cismontane woodland; dry slopes. 50-1525 meters.	MODERATE POTENTIAL IN CHAMISE-LAUREL SUMAC ASSOCIATION
<i>Monardella sinuata</i> ssp. <i>gerryi</i>	Gerry's curly-leaved monardella	Apr.-Sep.	NONE	NONE	1B.2	Coastal dunes, coastal scrub, chaparral, and cismontane woodlands; grows within sandy soils. 0-300 meters.	NONE – SUITABLE HABITAT NOT PRESENT
Polemoniaceae	Phlox Family						
<i>Navarretia ojaiensis</i>	Ojai navarretia	May-Jun.	NONE	NONE	1B.1	Chaparral, coastal scrub, and valley and foothill grassland; openings in shrublands or grasslands. 275-620 meters.	LOW POTENTIAL IN CHAMISE-LAUREL SUMAC ASSOCIATION

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Scientific Name	Common Name	Blooming Period	Federal	State	CNPS	Preferred Habitat	Potential For Occurrence
Polygonaceae	Buckwheat Family						
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	Apr.-Jun.	NONE	NONE	1B.1	Openings/clearings in coastal or desert sage scrub, chaparral or interface; dry slopes or flat ground; sandy soils. 275-1220 meters.	MODERATE POTENTIAL IN CHAMISE-LAUREL SUMAC ASSOCIATION
<i>Eriogonum crocatum</i>	conejo buckwheat	Apr.-Jul.	NONE	NONE	1B.2	Chaparral, coastal scrub, valley and foothill grassland; grows within conejo volcanic outcrops. 50-580 meters.	NONE – SUITABLE SOILS NOT PRESENT
Ranunculaceae	Buttercup Family						
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	dune larkspur	Apr.-May	NONE	NONE	1B.2	Chaparral, coastal dunes; found in rocky sites and coastal dunes. 0-200 meters.	NONE – SUITABLE HABITAT NOT PRESENT
Orobanchacea	Broomrape Family						
<i>Cordylanthus maritimum</i> Ssp. <i>maritimum</i>	Saltmarsh bird's-beak	May.-Oct.	FE	SE	1B.2	Coastal salt marsh and coastal dunes	NONE – SUITABLE HABITAT NOT PRESENT
ANGIOSPERMS (MONOCOTS)							
Liliaceae	Lily Family						
<i>Calochortus clavatus</i> var. <i>gracilis</i>	slender mariposa lily	Mar.-Jun.	NONE	NONE	1B.2	Chaparral, coastal scrub, valley and foothill grassland; found on the valley floor within shaded canyons typically on grassy slopes. 320-1000 meters.	LOW POTENTIAL IN CHAMISE-LAUREL SUMAC ASSOCIATION

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Scientific Name	Common Name	Blooming Period	Federal	State	CNPS	Preferred Habitat	Potential For Occurrence
<i>Calochortus plummerae</i>	Plummer’s mariposa lily	May-Jul.	NONE	NONE	1B.2	Chaparral (openings), cismontane woodland, coastal scrub, valley and foothill grassland, granitic/rocky. 100-1700 meters.	MODERATE POTENTIAL IN CHAMISE-LAUREL SUMAC ASSOCIATION
Amaranthaceae	Amaranth Family						
<i>Suaeda estorea</i>	estuary seabite	Aug.-Oct.	NONE	NONE	1B.2	Salt marshes and estuaries	NONE – SUITABLE HABITAT NOT PRESENT
Poaceae	Grass Family						
<i>Orcuttia californica</i>	California Orcutt grass	Apr.-Aug.	FE	SE	1B.1	Vernal pools. 15-600 meters.	NONE – SUITABLE HABITAT NOT PRESENT
Ruscaceae	Ruscus Family						
<i>Nolina cismontana</i>	chaparral nolina	May-Jul.	NONE	NONE	1B.2	Xeric Diegan sage scrub, chaparral, coastal scrub open chaparral; primarily grows on sandstone and shale, occasionally on gabbro. 140-1275 meters.	NONE – NOT OBSERVED ON-SITE

Key to Species Listing Status Codes

FE

Federally Endangered

FT

Federally Threatened

FC

Federal Candidate

FPE

Federally Proposed as Endangered

FPT

Federally Proposed as Threatened

FPD

Federally Proposed for Delisting

SE

State Listed as Endangered

ST

State Listed as Threatened

SCE

State Candidate for Endangered

SCT

State Candidate for Threatened

SFP

State Fully Protected

SSC

California Species of Special Concern

Source: PCR Services Corporation, 2015

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Appendix G: Special-Status Wildlife Species

Scientific Name	Common Name	Federal	State	Preferred Habitat	Potential For Occurrence
INSECTS					
ACRIDIDAE	Grasshoppers				
<i>Trimerotropis occidentiloides</i>	Santa Monica grasshopper	NONE	CDFW Special Animals List	Known only from the Santa Monica Mountains and found on bare hillsides or along dirt trails in chaparral.	POTENTIAL [Low] Marginally suitable habitat is present on-site, mainly in the disturbed areas along the northern ridgeline.
NYMPHALIDAE	Brushfooted Butterflies				
<i>Danaus plexippus</i>	monarch butterfly (wintering sites)	FSS	CDFW Special Animals List	Winter roosts located in wind-protected tree groves (especially eucalyptus and Monterey cypress), with nectar and water sources nearby. Winter Roost sites extend along the coast from northern Mendocino County to Baja California, Mexico.	NONE – Suitable habitat is not present on-site.
TENEBRIONIDAE	Darkling Beetles				
<i>Coelus globosus</i>	globose dune beetle	NONE	CDFW Special Animals List	Inhabits coastal sand dune habitats from Bodega Head in Sonoma County to Ensenada, Mexico. The species prefers fore dunes and sand hummocks, burrowing beneath the sand surface and is most common beneath dune vegetation.	NONE - Suitable near-shore sandy habitat is not present.
Apidae	Bees				
<i>Bombus crotchii</i>	Crotch bumble bee	NONE	NONE	Temperate climates	LOW POTENTIAL
Carabidae	Tiger Beetles				

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NONE (F) = Species not expected to forage due to lack of food sources, or the site's location is outside of the species' range.

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POTENTIAL = Preferred habitat was considered potentially present based on the literature review and observed habitat in the Project site.

POTENTIAL (N) = Preferred nesting or roosting habitat was considered potentially present based on the literature review and observed habitat in the Project site.

POTENTIAL (F) = Preferred foraging habitat was considered potentially present based on the literature review and observed habitat in the Project site.

OBSERVED = Species was observed during surveys conducted on the site.

Scientific Name	Common Name	Federal	State	Preferred Habitat	Potential For Occurrence
<i>Cicindela hirticollis gravida</i>	sandy beach tiger beetle	NONE	NONE	Sandy coasts	NONE
<i>Cicindela senilis frosti</i>	senile tiger beetle	NONE	NONE	Salt marshes and inland brackish marshes	NONE
FISHES					
CYPRINIDAE	Carp and Minnows				
<i>Gila orcutti</i>	arroyo chub	NONE	SSC	Aquatic and south coast flowing waters; slow water stream sections with mud or sand bottoms; feeds heavily on aquatic vegetation and associated invertebrates.	NONE No suitable habitat on-site.
Gobiidae	Goby				
<i>Eucyclogobius newberryi</i>	tidewater goby	FE	SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	NONE No suitable habitat on-site.
Salmonidae	Salmon and Trout				
<i>Oncorhynchus mykiss irideus</i>	southern steelhead (southern California)	FE	NONE	Federal listing refers to populations from the Santa Maria River south to the southern extent of the species range (San Mateo Creek in San Diego County). Southern steelhead likely has greater physiological tolerance of warmer water and more variable	NONE No suitable habitat on-site.

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Scientific Name	Common Name	Federal	State	Preferred Habitat	Potential For Occurrence
				conditions than northern subspecies.	
REPTILES					
EMYDIDAE	Box and Water Turtles				
<i>Emys marmorata</i>	western pond turtle	NONE	SSC	Requires basking sites such as partially submerged logs, vegetation mats or open mud banks and needs suitable nesting sites in permanent or near permanent bodies of water in many habitat types below 2,000 meters.	NONE No suitable habitat on-site.
ANNIELLIDAE	Legless Lizards				
<i>Anniella pulchra pulchra</i>	silvery legless lizard	NONE	SSC	Frequents sparse vegetation of beaches, chaparral, pine-oak woodland, and streamside growth of sycamores, cottonwoods, and oaks. Needs loose soil for burrowing, moisture, warmth, and plant cover. Moisture is essential.	MODERATE POTENTIAL Within leaf litter beneath the canopy of the coast live oak-poison oak association
COLUBRIDAE	Colubrid Snakes				
<i>Thamnophis hammondi</i>	two-striped garter snake	NONE	SSC	Riparian and freshwater marshes with perennial water.	NONE No suitable habitat on-site.
PHRYNOSOMATIDAE	Zebratail, Earless, Horned, Spiny, Fringe-Toed Lizards				
<i>Phrynosoma blainvillii</i>	coast horned lizard	NONE	SSC	Chaparral; cismontane woodland; coastal bluff scrub; coastal scrub; desert wash; pinyon and juniper	MODERATE POTENTIAL Within the chamise-laurel sumac association

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Scientific Name	Common Name	Federal	State	Preferred Habitat	Potential For Occurrence
				woodlands; riparian scrub; riparian woodland; valley and foothill grassland.	
TEIIDAE	Whiptail Lizards				
<i>Aspidoscelis tigris stejnegeri</i>	coastal whiptail	NONE	CDFW Special Animals List	Various habitats in firm, sandy or rocky soils within sparse vegetation, open areas, woodlands and riparian communities of deserts and semi-arid areas.	HIGH POTENTIAL Within the chamise-laurel sumac association
BIRDS					
ACCIPITRIDAE	Hawks				
<i>Accipiter cooperii</i>	Cooper's hawk	NONE	CDFW Watch List	Nests in open forests, groves, or trees along rivers, or low scrub of treeless areas. The wooded area is often near the edge of a field or water opening.	POTENTIAL [N, MODERATE]; POTENTIAL [F, MODERATE] Suitable nesting habitat is present in the northern portion of the Project site. The disturbed area on the Project site and surrounding open areas to the north and northwest most likely provide a food source.
<i>Aquila chrysaetos</i>	golden eagle	NONE	SFP	Open terrain in deserts, mountains, slopes, and valleys. Nest mainly on cliffs, also in large trees (such as oaks), and rarely on artificial structures or the ground.	NONE Due to the proximity of residences and human activity.
<i>Buteo regalis</i>	ferruginous hawk	NONE	NONE	Open, relatively level grasslands and prairies	LOW POTENTIAL [F]
STRIGIDAE	True Owls				
<i>Athene cunicularia</i>	burrowing owl	NONE	SSC	Disturbed; low-growing vegetation within coastal prairie, coastal scrub, Great Basin scrub, Mojavean desert scrub, Sonoran	NONE [N]; NONE [F] Although suitable habitat is present on the Project site, this species is not known to occur in the Santa Monica Mountains.

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Scientific Name	Common Name	Federal	State	Preferred Habitat	Potential For Occurrence
				desert scrub, valley and foothill grassland; bare ground, disturbed.	
VIREONIDAE	Vireos				
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE	SE	Riparian forest; riparian scrub; riparian woodland.	NONE [N]; NONE [F] No suitable habitat on-site.
HIRUNDINIDAE	Swallows				
<i>Riparia riparia</i>	bank swallow	NONE	ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	NONE [N]; NONE [F] No suitable habitat on-site.
POLIOPTILIDAE	Gnatcatchers				
<i>Poliophtila californica californica</i>	coastal California gnatcatcher	FT	SSC	Coastal bluff scrub; coastal scrub.	NONE [N]; NONE [F] Although there are a few plants considered coastal sage scrub species in the southern portion of the Project site, birch leaf mountain mahogany is the dominate shrub in this area. Additionally, there are no CNDDDB records of this species in the Santa Monica Mountains. Do to very limited suitable habitat present on the Project site and lack of observations of this species within the vicinity, this species is not expected to nest or forage on the Project site.
CHARADRIIDAE	Plovers				
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	FT	NONE	Sandy coasts and brackish inland lakes	NONE [N]; NONE [F]
EMBERIZIDAE	Buntings, Juncos				

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Scientific Name	Common Name	Federal	State	Preferred Habitat	Potential For Occurrence
	and Sparrows				
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	NONE	CDFW Watch List	Frequents relatively steep, often rocky hillsides with grass and forb patches. Resident in southern California coastal sage scrub and mixed chaparral.	HIGH POTENTIAL in chamise-laurel sumac association
MAMMALS					
MUSTELIDAE	Weasels, Badgers, and Otters				
<i>Taxidea taxus</i>	American badger	NONE	SSC	Open shrub, forest, and herbaceous habitats, with friable soils to dig burrows. Requires rodent populations for food source.	POTENTIAL [LOW] Marginally suitable habitat is present on the Project site and within the vicinity to the north and northwest. No obvious badger burrows were observed.
MOLOSSIDAE	Free-Tailed Bats				
<i>Eumops perotis californicus</i>	western mastiff bat	NONE	SSC	Chaparral; cismontane woodland; coastal scrub; valley and foothill grassland. Roosts in crevices in cliff faces, high buildings, trees, and tunnels. Preys on insects. Requires roosting habitat that provides enough vertical drop to take off in flight.	POTENTIAL [N, LOW]; POTENTIAL [F, MODERATE] There are oak trees on the Project site that may provide suitable roosting habitat for this species, although this species typically requires habitat that provides enough vertical drop for it to take flight. The number of tall trees on the Project site is limited and there are no cliff faces, tunnels, or tall buildings.
VESPERTILIONIDAE	Evening Bats				
<i>Antrozous pallidus</i>	pallid bat	NONE	SSC	Chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, riparian woodland, Sonoran	POTENTIAL [N, NONE]; POTENTIAL [F, LOW] There is no suitable roosting habitat (rock outcrop) on the Project site. The open areas

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Scientific Name	Common Name	Federal	State	Preferred Habitat	Potential For Occurrence
				desert scrub, upper montane coniferous forest, and valley and foothill grassland. Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Very sensitive to disturbance of roosting sites.	may provide a potential for foraging. However, the foraging potential for this species on the Project site is considered low since this species has not been recorded on CNDDDB in the Santa Monica Mountains. The only occurrence record within the vicinity is from 2006 some distance away.
<i>Lasiurus blossevillii</i>	western red bat	NONE	SSC	Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. Feeds over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands. Roosts primarily in trees, and less often, in shrubs. Roost sites often are in edge habitats adjacent to streams, fields, or urban areas. Preferred roost sites are protected from above, open below, and located above dark ground-cover. Such sites minimize water loss. Roosts may be from 0.6 – 13 m (2 – 40 ft) above ground level. Requires water.	POTENTIAL [N, MODERATE]; POTENTIAL [F, MODERATE] Roosting habitat (coast live oak trees), and foraging habitat is present on-site. This species was reported on CNDDDB in 2004 in the northern portion of the Santa Monica Mountains,
<i>Lasiurus cinereus</i>	hoary bat	NONE	WBWG MEDIUM	Habitats suitable for bearing young include all woodlands and forests with medium to large-size trees and dense foliage.	POTENTIAL [N, MODERATE]; POTENTIAL [F, MODERATE] Roosting and foraging habitat is present within trees on the Project site.
<i>Myotis ciliolabrum</i>	western small-footed myotis	NONE	WBWG MEDIUM	Wide variety of habitats, primarily in relatively arid wooded and brushy uplands near water from	NONE [N]; POTENTIAL [F, LOW] Preferred roosting habitat (caves, buildings, mines, crevices) are not present on the

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Scientific Name	Common Name	Federal	State	Preferred Habitat	Potential For Occurrence
				sea level to 8,900 feet. Often seen foraging among trees and over water. Seeks cover in caves, buildings, mines, crevices, and occasionally under bridges and under bark. Separate night roosts may be used, and have been found in buildings and caves. Maternity colonies of females and young are found in buildings, caves, and mines. Requires water. Humid roost sites are preferred. Feeds on small flying insects.	Project site. Suitable foraging habitat is present in the open areas.
<i>Myotis yumanensis</i>	Yuma bat	NONE	WBWG LOW- MEDIUM	Wide variety of habitats ranging from sea level to 11,000 ft, uncommon to rare above 8,000 feet. Optimal habitats are open forests and woodlands with sources of water over which to feed. Roosts in buildings, mines, caves, or crevices, abandoned swallow nests and under bridges. Maternity colonies of several thousand females and young may be found in buildings, caves, mines, and under bridges. Warm, dark sites are preferred.	NONE [N]; NONE [F] There is no open water on the Project site that would provide optimal foraging habitat. Additionally, roosting habitat (buildings, mines, caves, or bridges) is not present.
Key to Species Listing Status Codes FE <i>Federally Endangered</i> FT <i>Federally Threatened</i> SE <i>State Listed as Endangered</i> ST <i>State Listed as Threatened</i>					

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Special-Status Wildlife Species

Scientific Name	Common Name	Federal	State	Preferred Habitat	Potential For Occurrence
FC	<i>Federal Candidate</i>	SCE	<i>State Candidate for Endangered</i>		
FPE	<i>Federally Proposed as Endangered</i>	SCT	<i>State Candidate for Threatened</i>		
FPT	<i>Federally Proposed as Threatened</i>	SFP	<i>State Fully Protected</i>		
FPD	<i>Federally Proposed for Delisting</i>	SSC	<i>California Species of Special Concern</i>		
FSS	<i>USDA Forest Service Sensitive Species</i>	AWL	<i>Audubon Watch List</i>		
WBWG	<i>Western Bat Working Group</i>	LAA	<i>Los Angeles Audubon list of Los Angeles County's Sensitive Bird Species</i>		
<i>Source: PCR Services Corporation, 2015</i>					

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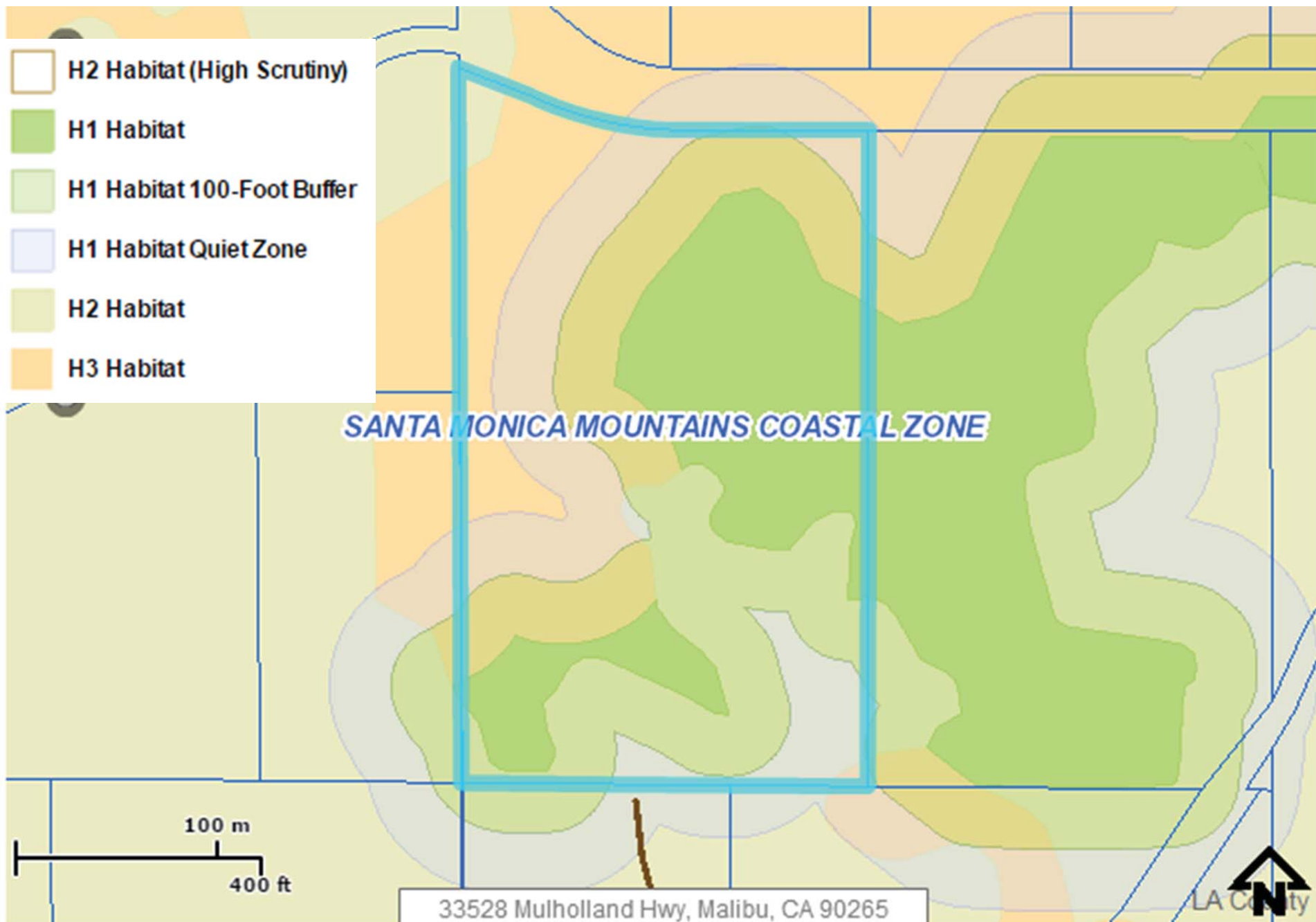
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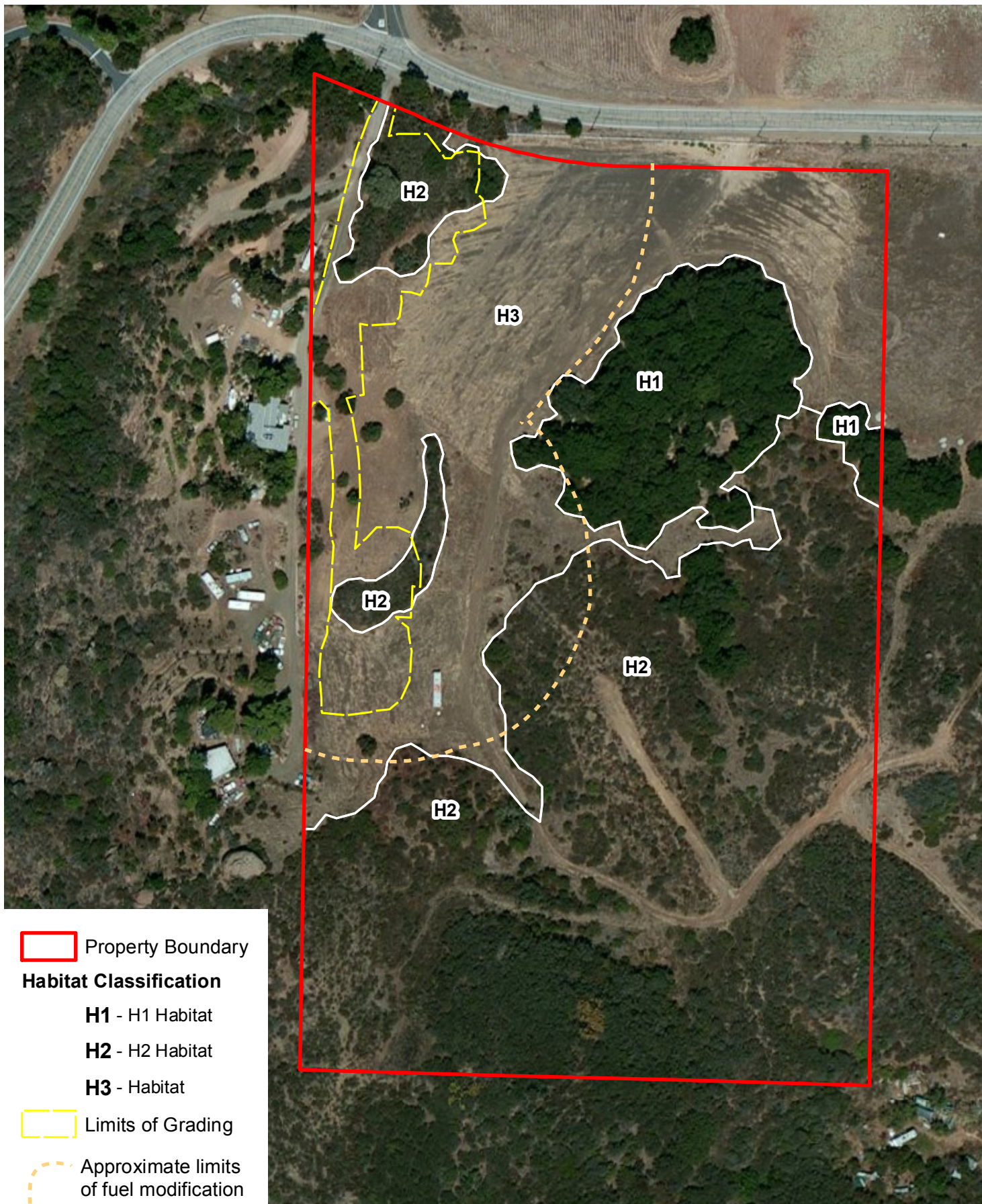
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Biological Assessment

(33528 Mulholland Highway, Malibu, California: APN 4472-009-012)

Supplement:

Lichens and Bryophytes
Floristic Survey
Protected Trees

Prepared For:

Everett Rollins

6418 Cavalleri Road
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April 26, 2016

INTRODUCTION

This supplemental report has been prepared by Mr. Carl Wishner for Mr. Everett Rollins, in response to requests from the Los Angeles County Planning Department. Correspondence via email regarding the requests are included in an Appendix of this report. Initially, Ms. Shirley Imsand of the Department requested a lichen and bryophyte study, and suggested that Mr. Rollins contact me to see if I could perform this study. I indicated to Mr. Rollins that my field or primary expertise was bryophytes, and recommended that he contact Mr. David Magney. Mr. Rollins again contacted Ms. Imsand and indicated that no response had yet been received. Ms. Imsand then suggested to Mr. Rollins that “you could have Mr. Wishner survey the bryophytes and other sensitive flora on the site that he knows and provide his assessment on what impact of your project would be on those.” “That may be the best we can do for the [supplemental] biological assessment.” Again, Mr. Rollins contacted me to see if I could do the surveys, and I accepted his request in order to meet his time constraints. I indicated that I would do the best I could at identifying the lichens, and although they are not my specialty, I am knowledgeable and capable of performing a reasonable study of them, and have the resources available to do so. I undertook to perform the field and laboratory study to determine the lichens (and bryophytes) as discussed in this report. Subsequently, other information requests arose. Specifically, a springtime survey of the vascular plant flora was needed, and some additional information on protected trees that were not covered in previous arborist’s reports. This supplemental report also attempts to address those needs. On March 25, 2016, between the hours of 11:00 and 18:00, accompanied in large part by Mr. Rollins, I surveyed the site and collected samples of rock-inhabiting lichens and bryophytes for laboratory analysis and determination. Lichens occurring on wood and vegetation were not collected, since Ms. Imsand’s concern was for lichen habitats associated with rocks and rock outcrops. In addition, all vascular flora observed was also recorded during the course of the survey. Finally, several native “trees” were examined which Mr. Rollins indicated had not been addressed in previous “tree reports,” and data were recorded regarding species, location and sizes thereof. Descriptions of the resources including lichens and bryophytes, vascular plant flora, and remaining “protected trees” are the subject of this report, together with assessments of potential project-related impacts and *outlines* recommended mitigation.

SPRINGTIME FLORISTIC SURVEY

A Biological Assessment for the project was prepared by Steve Nelson (January 2016). He recommended such a survey as a Condition of Approval to avoid potentially significant impacts on p9 of the report, “due to the presence of suitable habitat for special-status plant species within the fuel modification zone.” Also provided therein is a Plant and Wildlife Species Inventory as Exhibit E. No sensitive plant species are indicated to be present, however. The date and details or personnel of the plant survey(s?) are unspecified, however. A number of *outdated* nomenclatural entries suggest that the survey(s) may have been conducted prior to the second edition of The Jepson Manual (Baldwin *et al.* [eds.] 2012), or at least by personnel not familiar with more recent treatments. However, no reported species are substantially surprising or thought to be erroneous. The previous study is particularly lacking in “liliaceous” species, in particular *Chlorogalum pomeridianum* (soaproot), *Toxicoscordion fremontii* [*= Zygadenus f.*] (Fremont camas), *Dichelostemma capitata* (blue dicks), and *Calochortus catalinae* (Catalina mariposa-lily). Sunflowers, peas, and grasses were also incompletely represented. **Table 1** provides a list of all *additional* vascular plant species observed which were *not* included in Exhibit E of the previous report (Nelson 2016).

Table 1
Vascular Plant Species Not Previously Reported

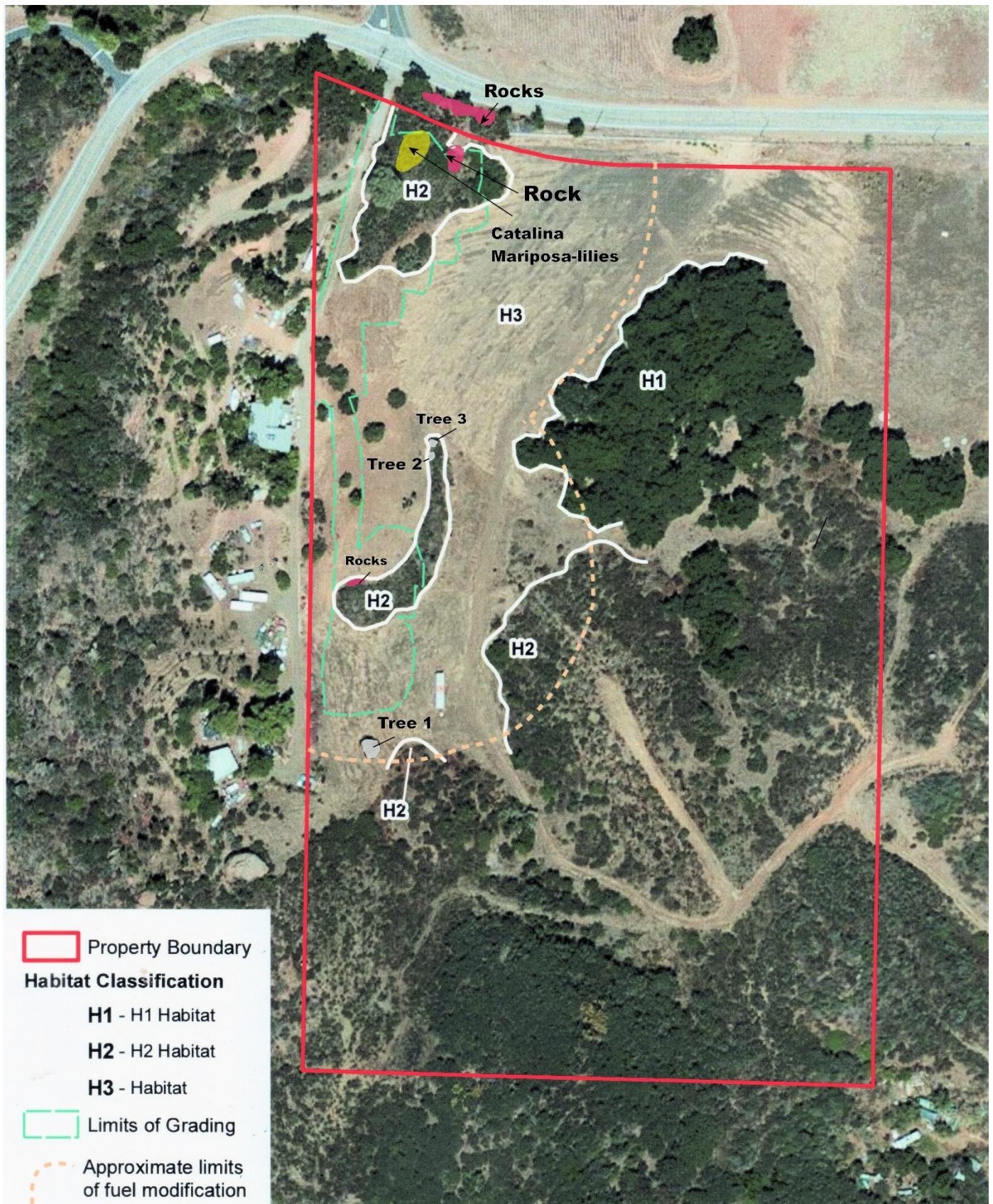
Family	Common Name
<i>Scientific Name</i>	
Adoxaceae	
<i>Sambucus nigra</i> subsp. <i>caerulea</i> [<= <i>S. mexicana</i> misappl.]	elderberry
Anacardiaceae	
<i>Schinus molle</i>	peppertree
Apiaceae	
<i>Daucus pusillus</i>	Rattlesnake weed
<i>Lomatium utriculatum</i>	-
<i>Sanicula crassicaulis</i>	Pacific sanicle
Anacardiaceae	
<i>Rhus ovata</i>	
Asteraceae	
<i>Corethrogyne filaginifolia</i>	California-aster
<i>Erigeron foliosus</i>	Fleabane-aster
<i>Helianthus gracilentus</i>	Slender sunflower
<i>Hypochaeris glabra</i>	Smooth cat's-ear
<i>Malacothrix saxatilis</i>	Cliff-aster
<i>Micropus californicus</i>	Slender cottonweed
<i>Pseudognaphalium californicum</i>	California everlasting
<i>Pseudognaphalium microcephalum</i>	White everlasting
<i>Senecio vulgaris</i>	Common groundsel
<i>Sonchus oleraceus</i>	Common sow-thistle
Boraginaceae	
<i>Amsinckia intermedia</i>	Rancher's fireweed
<i>Eucrypta chrysanthemifolia</i>	Common eucrypta
Brassicaceae	
<i>Capsella bursa-pastoris</i>	Shepherd's-purse
<i>Sisymbrium irio</i>	London rocket
<i>Sisymbrium officinale</i>	Hedge mustard
Caprifoliaceae	
<i>Lonicera subspicata</i> var. <i>denudata</i>	Honeysuckle
Caryophyllaceae	
<i>Silene gallica</i>	Windmill pink
Crassulaceae	
<i>Crassula connata</i>	Pygmy crassula
Cucurbitaceae	
<i>Marah macrocarpus</i>	Manroot
Fabaceae	
<i>Lathyrus laetiflorus</i>	Wild sweet pea
<i>Lupinus bicolor</i>	Miniature lupine

<i>Medicago polymorpha</i>	Bur-clover
<i>Melilotus indica</i>	Sour-clover
Geraniaceae	
<i>Erodium botrys</i>	Large-flowered filaree
<i>Erodium moschatum</i>	White-stemmed filaree
Lamiaceae	
<i>Scutellaria tuberosa</i>	--
<i>Trichostemma lanatum</i>	Woolly bluecurls
Montiaceae	
<i>Calandrinia ciliata</i>	Red maids
Myrsinaceae	
<i>Anagallis arvensis</i>	Scarlet pimpernel
Onagraceae	
<i>Camissonia cf. micrantha</i>	Small-flowered evening-primrose
Paeoniaceae	
<i>Paeonia californica</i>	California peony
Plantaginaceae	
<i>Antirrhinum kelloggii</i>	Twining snapdragon
<i>Keckiella cordifolia</i>	Heart-leaf penstemon
<i>Plantago erecta</i>	California plantain
Rhamnaceae	
<i>Ceanothus spinosus</i>	Red-heart
<i>Rhamnus ilicifolia</i>	Holly-leaf redberry
Rosaceae	
<i>Cercocarpus betuloides</i>	Mountain-mahogany
<i>Prunus ilicifolia</i>	Holly-leaf cherry
Primulaceae	
<i>Primula clevelandii</i> [≤ <i>Dodecatheon</i> c.]	Padre's shooting-star
Rubiaceae	
<i>Galium andrewsii</i>	Spiny bedstraw
<i>Galium aparine</i>	Goose-grass
Agavaceae	
<i>Chlorogalum pomeridianum</i>	Soaproot
Liliaceae	
<i>Calochortus catalinae</i>	Catalina mariposa-lily
Poaceae	
<i>Avena barbata</i>	Slender wild oat
<i>Hordeum murinum</i>	Mediterranean barley
<i>Hordeum vulgare</i>	Cultivated barley
<i>Melica imperfecta</i>	California melica
<i>Schismus barbatus</i>	Mediterranean grass
<i>Stipa lepida</i> [≤ <i>Nassella</i> l.]	Foothill needlegrass
<i>Stipa miliacea</i> [≤ <i>Piptatherum miliaceum</i>]	smilo grass
Themidaceae	
<i>Dichelostemma capitatum</i>	Blue dicks

One species, namely *Calochortus catalinae* (Catalina mariposa-lily) is included on the California Department of Wildlife's Special Vascular Plants, Bryophytes, and Lichens List (CDFW April 2016). Heritage Rank G4/S4¹, Rare Plant Rank 4.2. As such, direct and indirect impacts to these plants should be avoided where possible, and where such avoidance is deemed not possible, then appropriate mitigation should be undertaken. Preparation of a plan for avoidance or mitigation is recommended.

On the property, the population of Catalina mariposa-lilies is restricted to the northwest portion, as approximately shown on **Figure 1**. An estimated 30 to 50 individuals are estimated. The location is within in area that would likely be directly impacted by site grading, construction, and long-term incidental impacts associated with landscaping, fuel modification, and human use of the site. Being perennial from bulbs, this species is amenable to translocation, and there are professionals with experience doing this. Translocation to an on-site area with suitable soils and long-term protection is preferable to off-site or compensatory mitigation elsewhere. What is required for translocation is to mark the individuals during their evident period of growth and maturation, and flowering using wire flags or another method. This should occur in late spring to early summer. At senescence in summer and fall, and winter, they can be difficult to detect or relocate their positions. Having marked the individuals, when completely senescent, they should be excavated carefully to recover the entire bulb, intact. Experience shows that there are often many more individuals near to those marked which were not seen earlier, and attempt should be made to recover as many as possible for translocation. The recovered bulbs should be stored in cool, dark, dry conditions over the summer to allow them to "harden-off," and be ready for transplant. At the onset, or just before the start of fall or early winter rains, the bulbs can be transplanted to new locations, with care to observe the appropriate depth and soil conditions, and adequate protection from predation from digging mammals that might eat the freshly-planted bulbs. A period of monitoring and reporting on success should ensue, with contingency for problems that might arise. The scope of such a plan is briefly outlined above, but the details are beyond the scope of the present report. With successful mitigation as outlined above, the impact could be considered not significant.

¹ The NatureServe element ranking give the Global or G Rank, and the State or S Rank. Both *and* S4 indicates "Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors." The 4.2 indicates "Plants of Limited Distribution-A Watch List: The plants in this category are of limited distribution or are infrequent throughout a broader area in California, and their vulnerability or susceptibility to threat appears low at this time. While we cannot call these plants 'rare' from a statewide perspective, they are uncommon enough that their status should be monitored regularly. Should the degree of endangerment or rarity of a Rank 4 plant change, we will transfer it to a more appropriate rank or delete it from consideration." The decimal indicates "Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat."



Locations of Sensitive Elements
Rocks with Lichens
Catalina Mariposa-lilies, and Trees

MOSSES AND LICHENS

Mosses

Only two bryophyte species, both mosses, were observed (on rock habitats, or elsewhere; no liverworts or hornworts were evident anywhere):

Grimmia laevigata (Hastings & Greven [in FNA vol 27, 2007 p 247; Malcolm *et al.* 2009 p 64] is a distinctive species with prominent *flattened* white awns on the leaf tips, and these have margins that extend down the margins in a decurrent fashion. No other species of *Grimmia* in these mountains exhibits these characteristics. These plants occur rather sparingly as dark blackish (dry) and hoary “turfs” on a ground level rock outcrop in the northwest portion of the site, as well as on north-facing sides of large boulders in the Mulholland Highway ROW, with abundant lichens discussed below. No other bryophytes were observed.

Grimmia lisae (Hastings & Greven [in FNA vol 27, 2007 p 253]) is mixed among the above, less abundant. It is distinguished from *G. laevigata* by its awns that are not flattened or decurrent along the margins. Leaves stand rather straight outward (squamose) from the stems when wet. Microscopic features observed include leaves that are one-layer of cells thick, with cells near the base of the midrib short-rectangular in shape, cells in the middle of the leaf rounded and not sinuose, and stems with a differentiated central strand. This is a coastal species that is common in the Santa Monica Mountains. *Grimmia trichophylla* (Hastings & Greven [in FNA vol 27, 2007 p 257; Malcolm *et al.* 2009 p 72] is a very similar and locally common species that has leaf cells that are sinuose, and leaves not squarrose when wet. *Grimmia pulvinata* (Hastings & Greven [in FNA vol 27, 2007 p 255; Malcolm *et al.* 2009 p 67] is a rather common species with cosmopolitan distribution, but more common in the southwestern areas of North America. It can be distinguished from *G. lisae* and *G. trichophylla* by its leaves which are abruptly narrowed to the awns.

Lichens

Xanthoparmelia cumberlandia [1]² Cumberland rock shield (references: S136; H123)³. “Probably the most common species in California, found on rock, occasionally on pebbles or soil, statewide, coast and inland”; pycnidia also frequent, without isidia; lower surface tan to brown, with simple rhizines” (S136). Observed characters are as follows: On rock, foliose-squamulose, loosely attached, thallus lacking isidia or soredia, margins dark. Apothecia present, abundant, brown. Lower surface pale to dark brown, with simple rhizines, not tending to be along the margins, but instead in the center of the thallus. Medulla K+ yellow turning slowly/quickly(?) red⁴. Pycnidia present on some specimens, but not others, evident as dark spots

² For lichens, the numbers appearing in square brackets following the name are temporary collector’s to facilitate future reference. Some numbers are duplicates, and do not appear.

³ The references cited here for *lichens* are given in an abbreviated fashion, with a capital letter to denote the four most used works, followed by a page number in that work where a description or other information can be found. For instance, “(S136)” denotes page 136 in Sharnoff’s (2014) book California lichens. Similarly, the letter B stands for Brodo *et al.* (2001); H stands for Hale & Cole (1988), and N stands for Nash *et al.* (2007). See the section Literature and Persons Consulted for full citations. Other citations are conventionally given.

⁴ Hale (p123) distinguishes between K+ “slowly” red (stictic and norstictic acids) and “quickly” red (norstictic or salazinic acid) as a key difference between three species. In this case, the difference between the “loosely attached” species *X. cumberlandia* and *X. taractica* is difficult on the basis of reaction to K “slowly vs. quickly,” and further comments that “the K+ test is not always satisfactory; only a TLC or microcrystal test will positively identify the acids.” *Xanthoparmelia taractica* is neither treated nor mentioned in Brodo or Sharnoff, and a search of the

on the thallus cortex, without apparent other differences. Keys in Hale (p 27) and Brodo (p 117) prove problematic, because not only the growth form (foliose in Hale; foliose or squamulose in Brodo) are clearly differentiated, but the color of the thallus in both references suggests the genus *Xanthoparmelia* is “yellow or yellowish green,” despite descriptions and photographs that suggest otherwise! The present material presents itself as gray-green to this observer, leading to great consternation, and cause to look to other genera such as *Physcia*, *Imshaugia*, *Hypotrachya*, and others, without satisfactory results. *Xanthoparmelia lineola* (S137; B738; H124) is very similar, but this species is reported to have “thallus very closely attached to the substrate,” and alkaline Iodine chemical test is needed for further differentiation from *X. cumberlandia*.

In conclusion, *X. cumberlandia* is considered as the most reasonable determination. Knudsen (2016) indicates this species is “common on non-calcareous rock in California in [a] wide range of habitats, frequent in SMM, with some plants on soil.”

Lecanora muralis [2a] stonewall rim lichen (B383; S292; H205). “One of the most common and widespread lobed species of *Lecanora*.” Features observed include thallus clearly visible, K-, C-, UV-, lobe margins whitish, not pruinose, algae abundant in apothecial margin, especially in KOH. On rock, thallus clearly visible, K-, squamulose, gray-green to yellow-green when dry, with distinct whitish margins, olive-green when wet, especially with KOH. Apothecia pale, olive-greenish when wet (due to algal layer beneath), light tan to reddish-brown when dry, lecanorine, clustered near the center of the thallus. A number of other species considered are variously pruinose, with shiny apothecia, different colors, poorly developed thalli, etc. In conclusion, *L. muralis* appears distinctive and relatively unmistakable.

Lecania brunonis [2b] brown rim lichen (S276; B370). On rock, crustose and areolate, without soredia, apothecia dark brown, raised lecanorine, K-, C-, UV-. Considered were other species and genera including: *Lecania pacifica* (S277) (Thallus with elevated warts, pale yellowish to gray or brown); *Aspicilia* and *Buellia* spp. (apothecia sunken); *Amandinea punctata* (S221) and *Catillaria lenticularis* (S252) (on bark or wood); *Diploica canescens* (S262) (thallus bluish-white, cortex K+ yellow); *Lecidella* spp. (apothecia black, lecideine); *Amygdalaria* (B159) (thallus pinkish or brownish, cephalodia almost always present), and *Porpidia* sp. (B583) (areoles dispersed or endolithic, apothecia black). In conclusion, *L. brunonis* is a reasonable determination, although it has not been attempted to distinguish it from “similar” *L. hassei* (S276; B370 [mentions]), which has longer, fusiform spores. Nash treats this as *Lecanora h.*, with several synonyms listed. Knudsen (2016) indicates *Lecania brunonis* is “frequent on non-calcareous rock in coastal California, on the Channel Islands, and in SMM.” In contrast *L. hassei* is “common on the Channel Islands, rare in SMM and usually crustose.”

Caloplaca luteominia* var. *l. [2c] firedot lichen (N202; B203; S243). This is a rather large genus, highly variable, and with several undescribed species in the region, Wetmore (p 179 in Nash III 2007) provides the most comprehensive treatment of our species, and several other guides include excellent photographs, although descriptions are often incomplete and/or inconsistent. Definitive determination requires extensive microscopic and chemical analyses, some of which cannot be performed by the present observer, such as microcrystal and thin layer chromatography, and spot tests with DEA restricted,

name on internet yields unrevealing results. Similarly, the taxon is mentioned, but not treated in Nash III vol 2. Perhaps it is a synonym of *X. lineola* (B738; H124), a “closely attached” species, “difficult to collect free of rock,” which is not descriptive of the present collection.

dangerous and/or carcinogenic chemicals. It is tempting to make a determination using photographs and text descriptions using the field guides alone, but this would not be fully objective nor comprehensive. Therefore, a more concerted effort is made herein to make a reasoned determination, based upon available keys, microscopic and chemical observations that *could* be undertaken, tempered with reported known distributions and habitat/substrate preferences. The material at hand is described as follows:

An orange crustose lichen (to somewhat squamulose, but not fruticose, as in some species), on rock. Apothecia abundant, without isidia, soredia, not parasitic; anthraquinone presence/absence⁵ apparently absent (requires thin layer chromatography). Thallus evident, yellow-orange, greenish when wet, somewhat lobed, but not elongate. Immediate K+ red-purple thallus and apothecia. Apothecia raised above thallus, not immersed, disk orange, darker than thallus, greenish when wet, margin thick, raised when dry, flush when wet, lecanorine. Spores hyaline to slightly brownish, ellipsoid, 2-celled, septum thin, 12x6 micrometers.

Using keys and descriptions in Wetmore (*in* Nash III, p179), and after eliminating species without anthraquinones see footnote, species considered are several:

Substantially different is *Caloplaca l.* var. *bolanderi*, a California endemic, more aptly named *red* firedot lichen, having “brilliant rose-red” apothecia, “unlike any other lichen” (S243). *Caloplaca ludificans* (N202; B197) similar in features as *C. luteominia* described above, including pycnidia, except apothecial margin thin, concolorous with disc. Closely resembles *C. luteominia* var. *l.*, but apothecial margins thinner, flat or absent, and “thallus with little apparent structure” (S243); *C. nashii* (N204), and *C. crenulatella* (N193; S239): (thallus immersed and not evident); *C. marina* var. *americana* (N203; S244) (apothecial margin thin, flush, thallus yellowish, without lobes); *C. bolacina* (N188) (thallus cortex with irregular, thick-walled cells. “Bright color of large apothecia (0.7-2mm make it conspicuous” (S236); *C. squamosa* (N211) (thallus K+ red, disk margin flush); *C. subsoluta* (N214) thallus K+ red, disk margin flush).

Not included by Wetmore (*in* Nash III) is *C. brattiae* (S236), which has elongate thallus lobes and apothecia tending to cluster in the middle. *Caloplaca saxicola* (rock firedot lichen) is curiously not treated by Wetmore (*in* N III), since it is described by Sharnoff (S245) as “one of the more common rock species.” Apothecia typically clustered near the center. Brodo (B202) mentions this as a “common, west temperate” species in his discussion of *C. ignea* (dark red-orange, lobed), but paler orange to yellow-orange with scabrose lobes [see also N200].

Additional species “also of note” mentioned by Sharnoff (S248-249) as well as five unnamed provisional species described by Wetmore (*in* Nash III pp 218-220) have also been considered in this analysis.

Based upon the current analysis, *C. luteominia* var. *l.* presents itself as the most reasonable, tentative determination. If not for the observed small size of the apothecia (disk, hymenium), *C. bolacina* is very

⁵ Most confusing is the fact that Wetmore (*in* Nash III p180) in the key to those species with “anthraquinones absent” includes at least one species that exhibits K+ violet (*C. floridana*, on wood or bark, out of range). In a personal communication with Kerry Knudsen (April 16, 2016), he indicates “K+ anthraquinones present, K- anthraquinones absent.” Furthermore, “I have only one species in SMM and unless you knew more or got spores at the perfect time he [Wetmore?] might key it out as a *Lecanora*.” Among those without anthraquinones (K-) and reported in the southern California coastal area are eliminated from further consideration including: *C. atroalba* (N186) (apothecial margins “thin” and apothecia 0.5-1mm); *C. albovariegata* (thallus blue-gray); and *C. peliophylla* (apothecia shiny brown).

similar . Knudsen (2016) does not include this species for the Santa Monica Mountains, but does include *C. peliophylla* (N III 205) (thallus blue-gray), *C. demissa* (N III 195) (thallus brown), and *C. stanfordensis* *N III 212) (thallus gray). None of the latter species matches the description of the material at hand, and although disconcerting, additional study or verification might be justified.

Diploschistes scruposus [3] Crater Lichen (S265; B304). “[T]he most common species of *Diploschistes*.” Observed characters include thallus areolate, pale gray to almost white, without pruina, Apothecia black, imbedded in craters, nearly closed to open, K+ yellow to dark red-purple, UV (+?) pale violet (color of UV light (?), not white). Despite the apparently definitive characteristics of this common species, a number of other species bear a striking (photographic) resemblance in available guides and references. Other species investigated include: *Diploschistes diacapsis* (S264) (thallus pruinose); *D. muscorum* (S264) (“parasitic on other lichens, especially *Cladonia*,” “free living on moss and soil, sometimes on wood, rarely on rocks, widespread [distribution]”); *Circinaria contorta* (S255; B not treated) (K-); *Pertusaria* (S322) (K-, photobiont-blue green, and other features differ); *Peltula zahlbruckneri* (S321; B523 [mentioned]) (squamules olive to dark gray-brown with somewhat swollen lobes that can overlap and become almost fruticose, apothecia reddish brown to almost black, on acid rock, especially granite”); *Aspicilia confusa* (S224; B167) (“spot tests negative”); *A. cuprea* (S225) (K+ red, but “forming large patches, interior locations central and southern California”; *Thelomma* spp. (*T. mammosum*, *T. californicum*, *T. santessonii*) (S355-357) (cortex and/or medulla variously K- or K+, these “nipple lichens” have “ascomata are mazedia” [raised apothecia] embedded in “conspicuous spherical warts”; *Verrucaria* spp. (S363-365; B726; H186) (especially *V. inficiens*, *V. muralis*, *V. calkinsiana*, all spot tests) (perithecial species; Note (see also *Micarea* (B443, and Key F)).

Based on this analysis, *Diploschistes scruposus* presents the most reasonable determination. Knudsen (2016) indicates this species is “common but scattered distribution on non-calcareous rock in southern California.”

Buellia dispersa [5] Scattered button Lichen (S229; B186; N139). Observed characters: Crustose and areolate, thallus white-gray, greenish when wet, cortex K+ yellow. Photobiont green. Apothecia abundant, black, sessile and frequently irregular in shape, mostly strongly convex-rounded in shape above the thallus, shiny and granular. Examination of photographs in field guides yields numerous genera and species that closely resemble the observed material. Among these are: *Lecania brunonis* (S276; B369) (apothecia brown, on siliceous rocks, especially sandstone); *Lecidella asema* and *L. carpathica* (S303; B394) (thallus yellowish or pale green, C+ orange, rarely K+ yellow), black shiny apothecia; *Lecidia tessellata* (B393; S302) (apothecia sunken); *Trapeliopsis* (S360) (cephalodia +); *Peltula obscurans* (B 523; S319 (3 vars.)) (photobiont blue-green); *Toninia sedifolia* (B684) (on soil, sometimes rock, all chemical reactions -); *T. ruginosa* (S358) (on soil and rock, often parasitic on cyanolichens, epihymenium K+ red-brown, spores 2-8 celled [but] colorless). One is forced to execute detailed microscopic observations and further chemical spot tests in order to make a reasonable determination. With this, it was apparent that this is a species of *Buellia*, distinguished from very similar *Rhizocarpon* species with 2-celled spores which have a gelatinous halo around the spores (B633), and *Catillaria* and *Porpidia* which have 1-celled spores. *Buellia* is a large, diverse and somewhat artificial genus with many species, and very inadequately treated in field guides. Fortunately, a comprehensive treatment by Bungartz *et al.* (in Nash III pp 113-179). Using this key and descriptions, a reasonable determination was obtained. As such, the spores observed are brown and two-celled, and in cross-section, the apothecium is clearly of the “*dispersa* type,” and with a

dark brown hypothecium. This narrows the possibilities to three species for the region (*B. dispersa*, *B. maritima*, *B. nashii*), differing among other subtle features in chemical reactions to K, C, and HNO₃ (nitric acid). This latter chemical imposed a severe restriction on further testing. For this reason, the conservative determination of *B. dispersa*, being “probably the most common species throughout the Sonoran Desert Region” (Bungartz et al. in Nash III p139-140). Knudsen (2016) indicates *B. dispersa* is “frequent on non-calcareous rock in southern California in a variety of habitats, infrequent in SMM.”

Xanthoparmelia plittii [8] Plitt’s rock-shield (S140). Observed on rock, foliose, gray-green. Occurring with and closely resembling *X. cumberlandia*, but not as abundant. Differs from *X. cumberlandia* by having abundant isidia, cylindrical-clavate, becoming branched, globular only at first stages. Apothecia dark brown. Lower thallus pale, rhizinate. Pycnidia present, abundant. Medulla K⁺ yellow, slowly to orange. Other species considered include: *X. mexicana* (B738; S139; H125) (widespread, apothecia and pycnidia rarely seen), *X. subplittii* (S141 mentioned) (isidia spherical); *X. conspersa* (S135; B735) (lower thallus black), and; *X. schmidtii* (B738 mentioned) (a rare species from Tulare Co. and AZ).

In conclusion, *Xanthoparmelia plittii* is considered a reasonable determination, but only due to the evidently abundant apothecia and pycnidia and observed yellow to orange K⁺ reaction of the medulla. *Xanthoparmelia mexicana* as described is extremely similar, but “rarely with apothecia and pycnidia,” and the observed “K⁺ yellow to dark-red [and also *X. maricopensis* (S138; B738 mentioned)] reaction of the medulla.” Knudsen (2016) does not report *X. plittii* for the Santa Monica Mountains, but does include *C. mexicana* (S138) as a “common isidiate species on non-calcareous rock in southern California and in SMM.” *Xanthoparmelia mexicana* may be the correct determination for the material at hand, but based upon the observations, this investigator chooses to retain *X. plittii*, pending further study that might be warranted. Treatments vary and are conflicting about the broad vs. narrow character of the thallus lobes.

Acarospora socialis [10a] (S218). Observed as a brilliant yellow to yellow-green areolate to subsquamulose thallus with brown apothecia, these often irregular in shape, K⁻, C⁻. Hypothallus not black (as in *Rhizocarpon geographicum* (S343)). Knudsen (in Nash III) provides a comprehensive key and descriptions to the genus, and this was used to confirm the present determination. In this analysis, other species considered include: *A. robiniae* (S219 mentioned; N III 25) (C⁺ cortex red); *S. schleicheri* (N III 28) (squamules imbricate with pseudorhizines on underside); *S. rhabarbarina* (NIII 24) (disc red-brown), and; *A. obpallens* (N III 20) (C⁺ red cortex). Knudsen (2016) indicates this is a “common yellow species throughout southern California from islands to the desert, common in SMM on sandstone and Conejo volcanics.”

10b *Staurothele areolata* [10b] Dry Rock Pimple (S352; B661 mentioned). Observed as a crustose areolate to subsquamulose brown lichen with evident black perithecia on the larger areoles. The thallus is dark-brown, and the prothallus between the areoles is black. Other species considered include: *S. drummondii* (S352; B662) (on moist rocks, “especially near streams” [but Sharnoff contradicts himself in contrast with *S. areolata* compared with actual full description], perithecia not on larger areoles, and “well-developed involucrellum around the ostioles”; *S. monicae* (S353) (areoles tightly packed together, perithecia partly immersed, and with a “conspicuous involucrellum that rises above the ostioles”; Compared also were *Verrucaria* spp. *Hydropunctaria maura*. Knudsen (2016) does not include *S. areolata* for the Santa Monica Mountains, but does include *S. drummondii* (“rare in SMM”) (moist locations), and *S. monicae* (“common in southern California, especially in Mojave Desert, on calcareous and non-calcareous rock, rare in SMM despite being described from SMM”). *Staurothele monicae* may be the correct determination, however,

the present investigator chooses to retain *S. areolata*, based upon the observations, recognizing that further study might be warranted.

Candelariella aurella [10c] Hidden Goldenspeck Lichen (S249). Observed as a rather conspicuous yellow crustose to subsquamulose lichen on rock, granular texture, and with yellow apothecia, lecanorine. Similar species of *Acarospora* and *Pleopsidium* have apothecia sunken, and few species of *Caloplaca* are bright yellow. .Knudsen (2016) describes *C. aurella* as a “bright yellow calciphile in seepage tracks and in seasonal streams and drainages on non-calcareous rock in southern California and in SMM, also common on concrete.” The present investigator chooses to retain the determination, despite the apparent discrepancy of the habitat description.

Peltula obscurans* var. *hassei [10d] Common Rock Olive (B523; S320). A dark-brown to olive-brown squamulose lichen with a blue-green photobiont. Squamules lobed (a few observed). Apothecia observed reddish-brown (when wet) and lobe surface olive-green (when wet). Epihymenium K-. *Peltula euploca* (S319; B523) and *P. bolanderi* (S318) are sorediate on the margins of the squamules. *Peltula zahlbruckneri* has swollen lobes, with 1-7 apothecia per squamule and which occurs on acidic rock, especially granite, cannot be ruled-out as a possible determination. *Peltula o.* var. *o.* (SB524) is unlobed and epihymenium K+ red-purple, and *P. o.* var. *deserticola* has large apothecia and lecanorine margins. *Peltula patellata* (S320) and *P. richardsii* inhabits soil in desert areas. Other similar appearing species considered include: *Miriquidica scotopholis* (S309); *Claviscidium lacinatum* (S256); *Placidium lachneum* (S329); *P. squamulosum* (S329) and *P. pilosellum* (S330) are both perithecial, the latter with marginal pycnidia. Knudsen (2016) describes *P. obscurans* var. *hassei* as “common on non-calcareous rock in southern California but infrequent in SMM.”

Undetermined [10e] Resembling other *Xanthoparmelia* observed, but smaller, lobes 0.5mm, more gray, less green. It keys in Brodo as squamulose, due to small lobes, but loosely adnate with differentiated upper and lower surface. Lower surface whitish, with rhizines central, not on margins. Photobiont green. Cortex and medulla K-, C-. Upper surface with early developing and raised apothecia that are lecanorine. With numerous dark spots, surficial or slightly rounded, and possibly with pycnidia. Several attempts to key in Brodo as a squamulose lichen lead to unsatisfactory dead ends. The present investigator is unable to further proceed.

Undetermined [10f]. Thallus black when dry, amorphous or irregular in shape and form, somewhat shiny and minutely granular; when wet, becoming dark olive-green, but in microscopic section clearly the photobiont is green. Material evidently sterile, without apothecia, pycnidia, soredia, nor any other definable reproductive structure, although the external surfaces of this, and virtually all other species in all of the collections is covered with abundant minute black pustules that are the same color and texture, which may be of the present species under consideration, or perhaps some other parasitic lichen. Keys to sterile lichens available to this observer are limited to Brodo (p 122), which leads only to a possible determination of *Dirina catalinariae* (B305), which is obviously not correct. Examination of photographs leads to many species with similar appearance including species of *Psorotrichia*, *Lempholima*, *Lichenella*, *Peccania*, *Peltula*, and others too numerous to mention. Further attempts at determination were not pursued, due to lack of information available to this investigator.

Lepraria neglecta [11] Zoned Dust Lichen (S306; B307; N III 385 (key only)). This is a gray-green powdery crust, sterile, seen only on shaded boulder overhangs at the edge of Mulholland Highway, in the ROW.

The species is reported to be the most common *Lepraria* in central and southern California (B307). Certain determination is problematic, as there is a wide range of chemical reactions within the group. K-, C-, and UV- were observed, and this is consistent with the determination. *Lepraria lobificans* (B396) is with a distinct medulla, and K+ yellow turning orange or orange-red. *Lepraria finckii* (S305) reportedly replaces *L. neglecta* from Marin Co northward (S306) [Brodo 396 considers this a synonym of *L. lobificans*]. *Lepraria incana* (B396 mentioned; N III 385 key) is UV+ bright white; *Lepraria membranaceum* (H211 and B396) can be K- or K+ yellow, and color descriptions of the thallus in the two references do not agree; the thallus is well-developed, however. *Lepraria pacifica* (S306) is K+ yellow and UV+ dull white. *Lepraria chlorina* (H211 mentioned) is a bright lemon yellow species. Knudsen & Elix (2007 [in Nash III p384]) provide a comprehensive key to species based on several chemical tests requiring the use of more toxic chemicals that were not employed in this study. However, according to the tests that were performed, the following are indicated: Dibenzofurans absent (UV-, or UV+ blue white); Lecanoric and alectoric acid absent (C-); Stictic acid absent (K-); fumaroprocetraric and protocetraric acids absent (K- or K+ pale yellow brown). Additional testing requires use of P, a carcinogenic reagent, and thin-layer chromatography (TLC). Depending on these further tests, possible determinations could include recently described species such as *L. adhaerans* (N III p386) (usually adhering to lichens and mosses); *L. santamonicae* (N III p387) (conflicting description on p 387; medulla “lacking” vs. “distinct medulla”), and; *L. texta* (N387) (crustose, indeterminate, without lobes, well-fastened to the substrate). *Peltula corticola* is described in Nash p 388. It occurs on bark of oak (*Quercus agrifolia*) on Santa Cruz Id.

Impacts to Mosses and Lichens

Mosses, only two species, and representative lichen species occur on large boulders exposed along the Mulholland Highway ROW. These would not be impacted, because they do not occur on the subject property, and are not within any grading activity, and unlikely to be affected by fuel modification, even incidentally. One large ground-level rock outcrop estimated to be elliptical in shape and measuring 20 feet x 10 feet is located on the northern margin of the property in the northwest quadrant, approximately as shown on attached **Figure 1**. The majority of lichen species, as well as the two mosses were observed thereon. The exact location with respect to the project footprint could not be determined without a precise engineering survey with high accuracy. Provisional locations of the corners of proposed buildings were pointed out by Mr. Rollins, and it appears that the rock outcrop might lie just outside of the grading envelope, but very close to Buildings 7 and/or 8, and certainly with the fuel modification zone. This close proximity to proposed construction and long-term activities could result in the direct loss of this special habitat, or incidental loss due to direct damage or degradation by equipment during construction and other site preparation such as landscaping, irrigation, fuel modification, and ongoing operation of the resort from human activity. This loss or degradation could be significant. Not because the species that occur there are rare, sensitive, or threatened, but because the habitat of the rock outcrop is special from the standpoint of coastal zone protection, regardless of the species involved. Preferred mitigation is complete avoidance of the rock outcrop, with adequate buffering and protection from incidental damage during *all* phases of the project. A plan for such avoidance and short and long-term protection might include adequate fencing, signage, public and resort client’s restrictions and educational interpretation, protection from landscape irrigation and overspray, herbicide use, recreation, foot travel, use by pets such as dogs or horses, and possible incidental damage during fuel modification activities. The details of such a plan are beyond the scope of the present study. Failure to effect avoidance and long-term protection could result in significant impacts to the habitat as a coastal resource.

Smaller, elevated boulders atop a small hill in the south, shown on **Figure 1** do not support mosses, and lichens are primarily foliose *Xanthoparmelia* spp. These boulders are currently along the edge of a small remnant stand of Chamise chaparral, and observed grading patterns suggest they were disturbed in previous years by heavy equipment, which may have moved some of them to their present position. As a habitat resource, these boulders might not be considered as significant as the ground level outcrop discussed above, and certainly not from the standpoint of lichen diversity. Nonetheless, they are of interest, and potentially they could be moved to a new location, carefully, if avoidance is not possible. It would be important to place them in the same orientation with respect to direction of the sun and vertical angles, as well as providing similar shading from shrubs to maintain moisture equitability. Impacts to these boulders might not be considered significant, however.

PROTECTED TREES

Bill Mellett Design's (Jan 2016) Oak Tree Report (for eight [*sic*; there are actually seven in the report] *Quercus agrifolia* Trees) for 32528 Mulholland Highway states "[t]he majority of the Oak trees in the area designated Oak Grove are exhibiting signs of severe drought stress and associated loss of vigor." "There is considerable branch die back and evidence of Bark Beetle [*sic*] presence on many trees. The Oaks in this grove would benefit from having any dead wood removed and any dead or dying trees removed. A side benefit would be fuel reduction and reduced fire intensity."

In various communications from Ms. Shirley Imsand, she indicated several elements from the Biological Assessment that need to be addressed. She includes the following items regarding protected trees:

Item 3: "the tree map is not inclusive for all parts of the project." "We need a tree map that shows all protected trees within the project development space."

Response to Item 3: Mr. Rollins pointed out several "trees" that might not have been included in the Protected Tree report. I examined each of these, as shown on **Figure 1**, and described below in terms of their observed characteristics and potential impacts thereto:

Tree No 1: Mountain-mahogany, located in southwest quadrant, in H3 habitat. Multiple trunks, the largest trunk measures 3.5" dbh, no two single trunks sum to 8" total. Does **not** meet criteria as a protected tree. Impact: Near the location of a proposed water tank. Impact: Mr. Rollins indicates the tree will be retained. Adjacent and understory vegetation consists of introduced annual grasses and forbs: at most, the area might be subject to mechanical weed-whacking, and no significant impact is anticipated.

Tree No 2: Scrub oak, located in H2 habitat of west-central portion of the project, within a remnant stand of chamise chaparral, at the margin of historic grading disturbance, outside of any proposed grading (?), within proposed fuel modification zone. Trunk measures 5.75" dbh. Does **not** meet criteria as a protected tree (but very close to 6"). Impact: Mr. Rollins indicates the tree will be retained. No grading is required (?). Shrubs in the remnant stand of chaparral may require removal for fuel modification, and in order to prevent fuel laddering into the tree. No significant impact is anticipated.

Tree No 3: Scrub oak, located within several feet of Tree No 2, with conditions the same as those discussed above. Three trunks, with the largest measured 7" dbh. **Does** meet criteria as a protected tree. Impact: Mr. Rollins indicates the tree will be retained. No grading is required (?). As with Tree No 2, shrubs in the remnant stand of chaparral may require removal for fuel modification, and in order to prevent fuel laddering into the tree. No significant impact is anticipated.

Tree tagged #1221 (*not* shown on **Figure 1**): Coast live oak. Located off site at address 33439 Mulholland Highway of north side of road. Two trunks, possibly actually two trees with fill material obscuring the base, but second one is not separately tagged. Each trunk measures 14" dbh. Impact: Trenching for required water line will encroach into root zone. Mr. Rollins communicated that the arborist has examined the tree(s) and indicates that they are rooted in hard-packed soil (below the road bed), and they would not be adversely impacted by the trenching.

Item 4: "We need a table of mitigations for native trees removed or encroached within the tree protected zones (TPZ)". Response to Item 4: The Oak Tree Protection Plan (Bill Mellett Design 2016b) provides map and table] for eight [yes; there are actually eight Coast live oak *Quercus agrifolia* trees, in addition to four scrub oaks *Q. dumosa* [*sic*; = *Q. berberidifolia* <= *Q. dumosa* misappl.], eight toyon *Heteromeles arbutifolia*), five mountain mahogany *Cercocarpus betuloides*, one sugar bush *Rhus ovata*, and one California lilac *Ceanothus* spp. [*sic*; only *one* tree, not more than one species]; this report does not include the four trees discussed in the present report, however, as indicated to me in the field by Mr. Rollins. Mitigation is not clearly indicated in the Oak Tree Protection Plan, and it was not the scope of the present study to provide it.

Item 5: "We need an analysis of oak woodland impact and mitigation. This would be for oak woodland outside of the oak woodland mapped H1. For the oak woodland mapped H1, we need assessment of impact from fuel modification." Response to Item 5: According to the Oak Tree Report (Bill Mellett Design 2012a) "The majority of the Oak trees in the area designated Oak Grove are exhibiting signs of severe drought stress and associated loss of vigor. There is considerable branch die back and evidence of Bark Beetle [*sic*; beetle] presence on many trees. The Oaks in this grove would benefit from having any dead wood removed and any dead or dying trees removed. A side benefit would be fuel reduction and reduced fire intensity." In my recent observation, the understory of the Oak Woodland lacks substantial herbaceous and woody vegetation, and would require little treatment, if any, to manage the fuel loading beneath the canopy. In fact, Mr. Rollins indicates that in the past, a substantial amount of camping-style living occurred in this woodland, and it was common practice to rake up leaves. This is evident, and the result is the woodland lacks substantial leaf-litter buildup, and it may be of benefit to allow further accumulation. In addition, the soil is compacted to the detriment of the woodland. The impact of fuel modification is not expected to be significant.

Item 6: "Please assess impact from fuel modification in the understory of the H1-mapped oak woodland as the project is now proposed". Response to Item 6: This appears to be the same as Item 5, above.

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Appendix 1

Email Correspondence

Hi Everett:

We have had a report on bryophytes by Mr. Wishner, who is highly regarded. I have had no response to my letter to the only lichen specialist I know asking for references. You could have Mr. Wishner survey the bryophytes and other sensitive flora on the site that he knows and provide his assessment on what the impact of your project would be to those. That may be the best we can do for the biological assessment.

Shirley Imsand

Hi Shirley

Have you had any success in finding a qualified Biologist? I have sent many e-mails to the SEATAC Biologist on your list per your recommendation, and spoken to many on the phone to no avail. Has a report ever been done on the lichen identification and the impact on the bryophyte-lichen community? If not, I hope to be included in the first few.

As always, thanks for your efforts

Everett

Hi Everett:

I am writing biologists to try to find an expert. Thank you for contacting Mr. Wishner.

Shirley Imsand

Hi Shirley

Thanks for this information. I have contacted Mr Carl Wishner. A very pleasant fellow who said he is the 'Moss Guy'. He said Mr Kerry Kundsén who is the only 'Liken [sic] Guy' he knows but he has moved to the Czech Republic. Any further leads would be greatly appreciated, I will be making my best effort to find a qualified Lichen Guy.

Thank you, Everett

Mar 15, 2016, at 12:04 PM, Shirley Imsand wrote:

Hello Everett:

It was good to talk with you yesterday on the site.

The link to biologists qualified to prepare reports for SEATAC is here:

http://planning.lacounty.gov/assets/upl/project/consultants_seatac.pdf

A biologist who can do the bryophyte identifications is Mr. Carl Wishner. Ask him directly if he can provide lichen identifications as well. Your site chiefly has lichens. I have an email out to another specialist asking him about other people in our area who can do lichen ID and bio reports.

What we need for the bio supplement is

1-Identification of bryophytes and lichens, list of species.

2-Notes on which species are considered sensitive, if any.

3-Assessment of how the proposed project may impact the bryophyte-lichen community.

I will send more information later when I get it.

Shirley Imsand March 27: David Magney to Shirley Imsand

Shirley,

Do you have copies of the two previous bio assessments for this parcel that Nelson mentions in his report? If so, can you please send me copies?

Is the Tree Protection Plan submitted for this typical of what you receive?

The Nelson report says that no raptor nests were observed; however, it does not say anything about any nest for other bird species. I would expect several species of birds to nest onsite, all of which would need to be protected during nesting season, assuming they are occupied.

You mention a need to supplement the information provided by Nelson, besides the presence of bryophytes and lichens. Am I correct?

I assume that you would like me to see if there are any trees onsite, particularly within the impact zone (including the fuel modification zone) that meet the SMM LCP definitions.

It sounds like Carl Wishner is declining to do this project, or any others?, in the SMM since he is now living in Chicago Park (not far from our home in Grass Valley). Is that correct?

BTW, Kerry Knudsen married a Czech and lives in Prague about half the time. He is still in Riverside part time. He will likely assist me with the lichens on a few projects, maybe even his one, but his is pretty tied up with other projects when not in Prague.

Thanks,

David L. Magney

March 28: Shirley Imsand to David Magney

Hello David:

Thank you for writing about the Rollins Project. I am sending pertinent documents in several emails since file sizes are large.

I do not know about Carl Wishner's work on this project other than that he was planning to contact Mr. Rollins and discuss what is needed. You need to ask Mr. Rollins what is planned with respect to Carl's work. When I talked to Carl, Carl was thinking he might be working on the project, and Carl does work here in LA County from time to time.

1. We need more data on the sensitive elements within the footprint of the proposed project development—a map of sensitive elements with the outline of footprint superimposed. This includes the cabins, the caretaker house, the water tank, the water main and hydrant installation, the fuel modification. I know there is at least one rock outcrop with bryophytes and lichens and there are wildflowers. It is a broad highpoint area with drainage to both Arroyo Sequit and Encinal Canyons. With Mr. Rollins I determined that a simple map of the rock outcrops would suffice since we were doubtful we could get analysis of the bryophytes or lichens, but identification of specific sensitive elements and some discussion of relative sensitivity would be better, of course. Lichens and bryophytes on rock outcrops are specified as sensitive H1-type elements in the LIP, and these should be avoided in impact by development when possible.
2. We need a statement on impact of the proposed project on the sensitive elements and a list of mitigations or proposal for alternatives that best avoid impact to them.
3. The map is not inclusive of all parts of the project. We need a map that shows all protected trees, which is all natives of 1 trunk 6-in. DBH or 2 trunks summing to 8-in. DBH. Non-native trees should also be shown within the project development space. (Mitigation is not done for non-natives unless advised by ERB or planners.). Most persons are unfamiliar with the extensive tree protections in the LIP, and consequently, do not have an inclusive tree protection plan to show. (pp 527-530 are deep within the large LIP document).
4. We need a table of mitigations for native trees removed or encroached within the tree protected zones (TPZ).

For tree protections, TPZ, and mitigations see the LIP 22.44.1920.K, pp.527-530.

5. We need an analysis of oak woodland impact and mitigation. This would be for oak woodland outside of the oak woodland mapped H1. For the oak woodland mapped H1, we need assessment of impact from fuel modification. See the oak woodland conservation and management plan guide for how to define area of oak woodland:

See pp 4-6 of the guide to determine area defined as oak woodland.

http://planning.lacounty.gov/assets/upl/project/oakwoodlands_conservation-management-plan-guide-20141204.pdf.

From a neighboring project I have the assessment that the agricultural field is non-native. Also from the neighboring project a sample of the main oak woodland mapped H1 states the woodland is damaged by non-native borers and the understory has been cleared from a large section of it. So I am going to propose that it is not H1 status, but H3 status and should be cleared of downed wood, diseased wood, and have ERB advise[d] on management. I am not sending the 2005 tree report on the H1-mapped oak woodland, since I have the evaluation of that.

6. Please assess impact from fuel modification in the understory of the H1-mapped oak woodland as the project is now proposed.
7. Please map proposed fuel modification with respect to existing fuel modification:
 - a. Show H1, H2, H3 mapped habitats.
 - b. Show superimposed project proposed footprint, proposed fuel modification, 100-ft. line from structures

and 200-ft. line from project structures.

c. Show existing fuel modification 100-ft and 200-ft lines from neighboring legal structures. There are some illegal installations that should not have fuel modification shown. Mr. Rollins can advise you on what these are.

Standard bird nesting and bat roosting protection surveys will be needed previous to construction and grading.

So this is one of three emails with pertinent documents.

Shirley Imsand